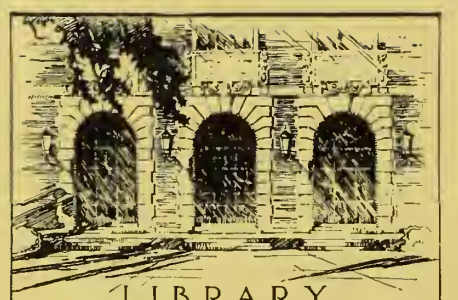

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SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

MAR 15 1963
UNIVERSITY OF ILLINOIS

January 1963

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Front Cover Photo: Flaming Gorge Unit. Al Casner (center), Pipefitter Foreman for Arch Dam Constructors, being presented with wristwatch by D. D. Baker (left), Project Manager, with J. R. Walton, Project Construction Engineer, Bureau of Reclamation, looking on. Bureau of Reclamation photo P591-421-4534.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
(January 1, 1963 - January 31, 1963)

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 4	0.0	0	0.0	2.8
Region 5	0.0	0	0.0	11.1
Region 6	0.0	0	0.0	7.2
Alaska District	0.0	0	0.0	0.0
Region 2	3.0	42	1.3	6.2
Region 1	3.7	19	0.7	0.0
Region 7	4.4	53	2.3	10.0
Region 3	18.6	335	62.3	5.0
Totals to Date	3.1	44	1.4	5.8
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 3	0.0	0	0
Region 5	0.0	0	0
Region 7	0.0	0	0
Region 4	13.0	336	0
Region 2	19.9	126	0
Region 6	29.8	372	0
Totals to Date	12.0	217	0
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date:
January 31, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	1	40
12	Handling Material	3	28
14	Falls of Persons	2	7
16	Striking Against	0	10
	Totals	6	85

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	460, 301	0	0	0.0	0
Construction	509, 172	1	14	2.0	27
Design	200, 595	0	0	0.0	0
Investigation	250, 942	2	45	8.0	179
O&M-Irrigation	224, 197	0	0	0.0	0
O&M-Power	307, 278	3	26	6.5	85
Totals	1, 952, 485	6	85	3.1	44

C. SERIOUS ACCIDENTS (Personal Injury)

(none)

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ACCIDENT REVIEW

SURVEY VEHICLE

Employer: Government
Activity: Riding in survey vehicle.
Accident Situation and Occurrence: Employee was riding as a passenger in a survey vehicle traveling over rough terrain. Vehicle hit a chuckhole and employee was thrown, stiking his head against roof of vehicle. Neck and vertebra in lower back injured with time lost estimated at 40 days. The installation and use of seat belts could have prevented this injury.

LOADING TRUCK

Employer: Contractor
Activity: Loading large riprap on truck.
Accident Situation and Occurrence: Truck had been loaded with riprap. Loader operator was trying to move an extra large rock into a better position on the truck. The rock rolled onto the protective shield over the cab. It broke through the shield with the cab smashing down onto the driver. The employee lost 6 days from work.
Cause Determination: This accident could have been prevented by loading the rock further to the rear of the truck. In this type of operation the driver should leave the cab during loading.

DRILL PLATFORM

Employer: Government
Activity: Core drilling.
Accident Situation and Occurrence: Drill helper was preparing to descend from tripod deck when he slipped and fell onto the drill rig. Injured ankle and time lost was 5 days. Employee was using a rope to climb down from platform. Ladders should be provided and used for this purpose.

FROM THE FIELD

Region 6. From Regional Safety Committee meeting minutes of January 22: Mr. Arthur informed the members that first aid courses for drill crews were held at Whitehall and Bismarck January 7 and 8. First aid classes are scheduled throughout the Region between now and spring. A safety school for transmission line construction personnel was held in Huron January 9-11. Response to the session appeared very favorable. It was suggested by the construction and field engineers that similar sessions be held on an annual basis.

A meeting has been scheduled for February 5 in Watertown to discuss the energization of electrical facilities and proper procedures for clearances. Transmission line construction, O&M, dispatch, and regional office personnel will attend.

Weber Basin Projects. The Ogden-Salt Lake area chapter of the Federal Safety Council has elected Harold E. Dean to serve as chairman for 1963. The Weber Basin Project and the regional office have participated actively in this organization for a number of years.

Project Safety Engineer Harold Dean has been instructing two separate Bureau of Mines first aid classes this month. A total of 40 project supervisors and contractors' supervisors are enrolled.

South Platte River Projects. A magnetic-type-spring-loaded brake was installed on the 16-inch radial arm cutoff saw in the carpenter shop at the Loveland service area. The blade of this saw would rotate for several minutes after shutting it off. With the new brake, the blade stops in about 4 seconds. This installation eliminates the hazard of employees' getting injured by the coasting saw blade. The entire mechanism was made and installed by the Flatiron Powerplant personnel.

Curecanti Unit. Some of the topics discussed at weekly toolbox safety meetings held by Tecon Corporation were: hauling and traffic problems near the tunnel portal, scrapers dumping along the river, electrical precautions, good cleanup, care of oxygen and acetylene cylinders, wire rope safety and use of welding screens.

Wichita Project. Toolbox meetings were held by field personnel and reports of the meetings were submitted on the revised "Supervisor's Report of Toolbox Safety Meeting." Subjects discussed included defective equipment, parking within swinging radius of cranes and other equipment, batch plant conveyors and warning signals, brush cutting versus eye injuries, and the manual "Safety Requirements for Construction by Contract." There has been no shortage of safety subjects for discussion at meetings. Bureau of Mines first aid classes were held January 14-18, inclusive, for 33 Government and contractor employees.

Red Bluff Office. Fifty contract administration and inspection personnel have completed training and review of the Safety Requirements for Construction by Contract, Third Edition. A Bureau of Mines first aid course was held January 29-31 at the Red Bluff Office.

Lahontan Basin Projects. The January meeting of the Federal Safety Council of northern Nevada was attended by the project safety officer. Seven employees of this office participated in a Radiological Monitoring Refresher Course held January 2.

Yellowtail Project. Mr. Ernest Dittmer from the Department of Public Instruction, State of Montana, conducted a training course for volunteer firemen the week of January 14-18, with 22 employees in attendance.

Kansas River Projects. A total of 24 Bureau employees satisfactorily completed the standard 10 hours instruction in first aid methods at the McCook Headquarters Office and will be issued certificates by the U.S. Bureau of Mines.

Canadian River Project. A 10-hour Bureau of Mines first aid course was conducted by Mr. Seyfried with 18 employees in attendance. A verbal examination of the course was given by Regional Safety Officer Aubrey Ruple. Bureau employees of the Aqueduct Division Field Office completed the review, lecture, and examination of the manual, Safety Requirements for Construction by Contract, January 11.

Folsom Field Division. A special form is being circulated for use on tailgate safety meetings. This will insure a more uniform and complete coverage of the meeting.

Seedskadee Project. A schedule of fire training classes for members of the Fontenelle Fire Department was prepared to cover a 3 months' period.

Columbia Basin Project. The Irrigation Division has set up a Division Accident-Injury Review Committee chairmaned by the Irrigation Supervisor. All serious accidents and disabling injuries will be reviewed by this group. The employees involved and their immediate supervisors are required to appear in person before the committee at the Ephrata Office.

Transmission System Office. The crews were beginning a new assignment which involved working on the snow and ice covered slopes of the Gunnison River Canyon at the Morrow Point Damsite. The men were briefed on the assignment and how the work was to be performed. The hazards were emphasized and methods discussed as to how best insure an accident-free operation. All members of the party were provided with crampons and sufficient rope was available for use as required. The assignment was carried out without any accidents.

WATER SAFETY

Showing hand winch attached to safety net so net may be adjusted to water elevation. Friant-Kern Canal, California.

Gates and posts are painted yellow for better visibility. Friant-Kern Canal, California.

Plastic floats strung on nylon rope used as floating guard ahead of siphon. Delta-Mendota Canal, California.

Niobrara-Lower Platte Projects. The Sherman-Howard County Water Safety Council completed final arrangements this month for water safety instruction in the schools of the two-county area. A 9-hour course (1 hour each week) will be devoted to a 20-point Water Safety Education Program. Mr. Dudley Osborne, Nebraska State Game Commission, will present the course to some 650 High School children.

Shasta Field Division. On January 30, the Project Safety Inspector attended a special committee meeting in Redding to discuss a long-range plan to improve boating safety on all bodies of water in the Redding area. The committee met with Merritt Nelson, Chairman of the Shasta County Red Cross Water Safety Committee.

VEHICLE SAFETY

BE SAFE BE SEEN

A survey by the American Medical Association indicates that the safest car, from a color standpoint, is a two-tone--blue and yellow. Tests showed that blue is most easily seen in daylight and fog, while yellow is most easily seen at night.

--NSC Traffic Safety

TOP BELT PERFORMANCE

Dare-devil stunts may be great stuff on TV, but television star Dick Van Dyke plays it safe in real life driving. His sports car is equipped with seat belts--which he uses. His caution payed off recently when his car skidded after hitting a slick spot while rounding a curve on a boulevard. It careened and smashed into a pole. Investigators said the seat belt saved the actor from serious injury.

--NSC Traffic Safety

BELTS IN CONVERTIBLES

Seat belts are as beneficial in convertibles as they are in other body styles--even in rollover accidents--according to the Automotive Crash Injury Research Project of Cornell Aeronautical Laboratory, Inc. In a recent ACIR Bulletin, Assistant Director B. J. Campbell said that based on existing evidence the frequency of serious injury to persons who remain in a convertible during rollover is not any higher than it is for any other body style. "Perhaps apprehensions will be lessened if it is stated that, in the majority of convertible rollovers, the structure of the windshield and top prevents the car from completely crushing down," Campbell said.

He went on to say that in nonrollover convertible accidents, seat belts may be even more important than in cars of other body styles because ejection from convertibles seems to occure more frequently.

A direct comparison of convertible occupants with and without seat belts could not be made because not enough data were available. "This is because convertibles constitute only a small fraction of cars on the highways." The comparison was based on occupants without belts who were ejected and another group that was not ejected. ACIR said it hopes to test its indirect findings later with direct evidence.

The report on the advisability of seat belts in convertibles came about as a result of the number of inquiries received on this subject.

--NSC Traffic Safety

THIS BELT-WEARING RULE HAS TEETH

A stringent seat belt policy was adopted recently by the Pinellas County, Florida, County Commissioners, after an accident nearly killed three county employees.

The new safety policy rules that employees who fail to have their seat belts fastened, while driving or riding in county-owned vehicles, will be suspended for the first and second offenses, and fired immediately for a third offense.

The accident which touched off adoption of the policy involved a county station wagon which was hit and turned over. According to the state trooper who investigated, the driver's life was saved because he was using his seat belt. The other man in the front seat was not using his seat belt because it was not properly installed. He was ejected from the car. Only the fact that he landed on the soft shoulder of the highway saved his life. The third man, without a seat belt in the rear seat, was tossed around and received more injuries than the others.

--NSC Traffic Safety

* * * * *

REGION 2

Employees of the Bureau of Reclamation are in the serious business of building and maintaining public works. The principal way to accomplish the purpose of reclamation is to utilize fully all personnel, equipment, and funds. Utilization to the fullest extent can only be accomplished through efficient and prudent management. Safety is inseparable from this type of management.

As we work together, each employee is challenged to make full use of all resources by the application of safe principles and techniques.

R. J. Pafford, Jr.
Regional Director

* * * * *

TURTLE CLUB CERTIFICATE

Robert R. Robison (center), Bureau Resident Engineer, looks on as George Moore (right), Tunnel Superintendent, presents a "Turtle Club" Certificate to Burl Cowan.

Mr. Cowan's membership in the "Turtle Club" is based on an incident on November 5, 1962, in the Division Tunnel at Causey Dam, Weber Basin Project, where he was employed by the Bud King Construction Company. A 4- by 6-inch coupling broke loose from the air line and struck Cowan on the head with enough force to knock him against another employee, pushing them both to the tunnel floor. The safety hat Cowan was wearing completely protected him from injury and he was able to continue working.

CONTRACTOR SAFETY SEMINAR

The Bushman Construction Company with several contracts on the Niobrara-Lower Platte Projects have developed, in cooperation with the Projects Safety Engineer, a Safety Seminar scheduled to be held at Ashton, Nebraska, on February 6, 13, and 20, 1963. This program was designed to increase safety awareness among contractor supervisory personnel so they will become more active in promoting employee interest in safety activities on construction work.

Talks on selected subjects, safety film showings, and first aid methods will be presented by both contractor and Government personnel. Presentations will also be made by State Safety Patrol, Heavy Equipment Dealers, and Electric Utility representatives.

This type of seminar will help provide a basis for greater contractor cooperation in meeting the objectives of the Bureau's safety program during the construction period.

* * * * *

ARCH DAM CONSTRUCTORS

The front cover photo shows the presentation of an engraved wristwatch to Al Casner, Pipefitter Foreman, for Arch Dam Constructors, the prime contractor on the construction of Flaming Gorge Dam. This award was presented by the contractor to Mr. Casner for supervising 60,000 man-hours of work without a disabling injury to his crew.

Arch Dam Constructors have worked 52 months with an accident frequency rate of 11.0; an exemplary safety record for concrete dam construction. Maynard Jean is the Safety Engineer for the contractor. T. K. Moe is Project Safety Engineer for the Bureau.

* * * * *

EMPLOYMENT OF MINORS

The U.S. Department of Labor now lists excavation operations as "particularly hazardous for the employment of persons between the ages of 16 and 18 years." Apprentices are excepted when such work is incidental to training and is done under the eye of a licensed journeyman. Generally speaking, "hazardous" conditions for minors are defined as working in, excavating, or backfilling trenches, except working in or manually excavating or backfilling trenches that do not exceed 4 feet in depth at any point; and working within tunnels or shafts prior to completion of all driving, sinking, and shoring operations.

* * * * *

REMARKS BY D. OTIS BEASLEY, ADMINISTRATIVE ASSISTANT SECRETARY OF THE DEPARTMENT OF THE INTERIOR, BEFORE THE SEVENTH ANNUAL SAFETY PROGRAMING CONFERENCE, NATIONAL SAFETY CONGRESS, CHICAGO, ILLINOIS, NOVEMBER 1, 1962

As the official primarily accountable for the responsibilities of the Secretary of the Interior in the field of safety promotion and accident prevention, I am most happy to meet with you and to participate in your Seventh Annual Safety Programing Conference. We are here to help guide the future course of action the Department will pursue to reduce mishaps to an absolute minimum.

First, let me compliment you for doing a good job--for helping us establish a program that is getting the results Interior needs. It has not always been this way. Interior's accident experience has been challenged on a number of occasions in the past. In 1955, for example, Senator Hubert M. Humphrey critically pointed up the issue:

> "I asked the Acting Secretary of the Interior," he said, "to study the high frequency rates of his various services like the Office of Territories, 37.8; National Park Service, 23.7; Fish and Wildlife Service, 14.9; and the Bureau of Reclamation, 13.9. I asked the Acting Secretary to compare these figures with those of private industry or with the Navy yards. After his study, I sincerely hope he will take the steps to improve this deplorable safety performance of his Department during his predecessor's tenure." 1/

Shortly thereafter--in September of 1955--the Administrative Assistant Secretary established the Branch of Safety Engineering and placed it under the Division of Personnel Management. The Safety Engineering Branch in that Division was assigned the responsibility to plan, develop, and coordinate Interior's total accident-prevention efforts towards common goals, establish a system to meet these goals, and then audit continually to maintain top program effectiveness across Bureau lines. The Department wanted safer working environments for its employees, accident-free enjoyment of Interior's many facilities by the visiting public, fewer fire losses, a reduction in motor vehicle collisions, and less property damage.

Since 1955, our combined safety efforts have been most successful. Interior's rate of disabling work injuries for each million man-hours of exposure has been reduced almost 50 percent. We have advanced to a point where we compare favorably with the All-Federal average. We are holding our own with tort claims from accidents. Fatalities

1/Congressional Record, March 23, 1955 p. 4808.

have dropped to less than one for every million visitors using our park facilities and water resources. Interior employees, moving over 16,000 motor vehicles a year in connection with their work, have suffered fewer than 5 collisions per million miles of driving. Furthermore, I am happy to report that three of the four Bureaus cited by Senator Humphrey in 1955 for questionable work injury experiences have since received honor recognition from the Department for outstanding accident reductions. As of June 1962 every Bureau has shown substantial reductions in loss from work injuries. I am truly proud of this record.

Now, how was all this accomplished? In 1955, our Bureaus began fighting accidents on a common front. A great deal of basic effort lay ahead. Sincere interest in safety had to be taught so the program's objectives would be understood by every employee, regardless of his grade, position, or years of tenure. We still have some way to go in this matter. Nevertheless, you made progress. This is reflected by the fact that safety sentinals are at every field installation either as appointed officers or as committees. Some places have both. You established a fine communication system to keep everyone aware of common problems and their practical solutions. This line is continuous--from the Department Safety Council down to the safety representative at the smallest field station.

Five separate programs were designed to cover the needs for fighting all types of accidents, from occupational disease to tort claims. A simple accident cost-accounting system was created on a monthly and quarterly basis to keep management aware of the dollars being paid out of program budgets for injuries and property damages. When Congress passed an Act to require a fiscal accounting of work injury costs, we were ready for it.

Accident records are constantly under surveillance, not only by Bureaus but by the areas, regions, and districts within them. By comparing their rates, we are able to tell management specifically of trouble areas. Training guides were prepared by the Department to teach the latest safety management and inspection techniques. Reports of accident loss are under your careful review and study, not only for problems related to people who have them, but for problems within the system of management that permits them to occur.

I would like to dwell on that last statement for a moment. In 1961, you adopted at the Sixth Annual Safety Programing Conference here in Chicago, the keynote, "NOT WHAT IS WRONG WITH PEOPLE, BUT WHAT IS WRONG WITH THE MANAGEMENT SYSTEM." This slogan represents an intelligent, modern approach to the problem. Blaming people for their accidents is relatively easy, but hardly worthwhile if causes of accidents are to be corrected through

management improvements. We must develop whatever technical ability is needed to identify management problems in the accident. If we cannot, the bulk of the profit to come from experience will be lost.

Under new concepts in safety management being proposed by your Department, direct steps are being taken to provide technical ability needed to locate and define management deficiencies revealed by injury or property damage. We have recognized the inability of the safety function to cope with this alone. Accordingly, we ask that accidents be reviewed by management representatives who are qualified to recognize problems that cross functional lines of concern. 2/ Thus, problems relating to personnel management, legal matters, finance, property management, and the like will come to the attention of those best able to seek out the solutions.

The Department has about 5,000 reportable accidents a year. Each contains several causes that can be related to one or more management functions. If these facts are systematically gathered over 2 or more years, it is not difficult to see that the Department could have on hand many thousands of cause factors, each related directly or obliquely to a specific management function. The direction and degree of management control will be determined by the frequency of occurrence of a particular kind of accident together with considerations of how much they cost and how much it would cost to control them.

Let me cite an example: Suppose we determine from the facts (1) that seasonal employees are being injured at twice the rate of regular employees; (2) that the major portion of this loss occurs at a particular geographical area in the Land Management Bureaus; and (3) the work being done at the time involves blister rust control using a certain chemical. The elements of the problem have now been brought to view and an intelligent analysis can be made looking toward solutions. It only remains to determine the degree of preventive action needed, based on moral necessity and economic feasibility. This is accident prevention at its scientific best. We used this approach to determine that only in few circumstances is it necessary to provide fire extinguishers for motor vehicles that Interior controls. Thousands of dollars were saved by this decision without endangering the lives of our employees. The risk of vehicle fires simply isn't large enough to warrant having an extinguisher in every piece of equipment.

Rates of accidents are receding, but the effort you must make to reduce them further becomes inversely more difficult each year. Our program is sound. It has proved its value. But we must shift

2/Ref. 395 DM 3.1C(2)(a).

it from generalities to specifics. To assist you in identifying specific management problems so that they may be examined by the experts concerned, I have asked that a Manual of Cause Code Classifications be prepared for your use on a trial basis. These codes will make it easier to isolate causes of accidents and fit them into the management areas of concern. The codes also should satisfy the need for absolute uniformity among Bureaus when preparing cause data for Department-wide use. They will de-emphasize fault-finding, simplify the process of analysis, and provide the means for reducing accident forms now required to a single reporting form. This is work simplification at its best.

We are most encouraged that Bureaus are adopting accident-prevention techniques as a desirable and profitable production activity. The concept of planned safety programing is fundamental. It increases manpower utilization and reduces waste. It insures, along with these economic values, that the moral obligation for safety is most completely met. Among the Federal Executive Departments and Agencies, you are pushing this Department forward--making it a leader in new concepts of safety management.

Today we are placing a great emphasis on manpower utilization. The Appropriation Committees of both houses of Congress have charged the Department with the responsibility for demonstrating that it has programs which will improve the effective use of manpower in accomplishing the Government's work. You who work in the field of safety can make an important contribution to this cause.

During calendar year 1961 the employees of this Department lost 129,400 days of work paid for but not obtained as a result of accidents. 3/ This is the equivalent of losing services of 355 employees from our Department. Anything that we can do to reduce the loss in manpower resulting from accidents will necessarily contribute to more effective manpower utilization.

In closing, it would be most appropriate if I could report that our advancements have been so phenomenal that all that remains is to hold those gains and everything ultimately will be shipshape by virtue of the passage of time.

Unfortunately, we cannot be complacent in any sense of the word. The gains of yesterday are behind us. New problems are appearing--and they are real problems, not paper ones. Here are some examples:

1. More and more vehicles are crowding onto the highways, speed limits are being increased, and correspondingly, the

3/ Using recognized American Standards method of computing the economic loss of work injuries and deaths.

people who drive our automobiles and trucks are going to be subjected to more hazards. The days before us will see this problem of traffic accidents becoming more intense.

2. America is on the move in other ways. New national parks and seashores have come into existence, more people have more leisure time and are coming to those parks in increasing numbers--and at our invitation, for these facilities are for the taxpaying public. Visitors to parks and recreational areas will reach new highs next year; and the next, and the next. Your safety problems in connection with the use of public facilities are sure to grow.

3. New public works programs have been authorized and employment will increase--and so will safety hazards.

4. New materials are being tested and used in our laboratories. These range from new chemicals and metals to gases, all inspired by the Space Age. They, too, bring with them new hazards.

5. Use of radioisotopes is increasing--and potential hazards come with such advancement.

The list can be extended, for I am naming only a few of many examples. Your work--your responsibilities--are increasing almost hourly and will continue to expand.

So my closing remarks must carry words of warning and admonition--attention to safety and to administration must remain dynamic--always changing, always improving, always present.

* * * * *

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH January 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	243	42,768	42,768							0.0	0.0		0	0
Denver Office	1,417	249,392	249,392							0.0	0.0		0	0
Alaska District	33	5,504	5,504							0.0	0.0		0	0
REGION 1														
Boise Regional Office	168	27,485	27,485							0.0	0.0		0	0
Central Snake Projects	46	6,952	6,952							0.0	0.0		0	0
Chief Joseph Dam Project	37	8,869	8,869							0.0	0.0		0	0
Coeur d' Alene Project	13	2,424	2,424							0.0	-		0	-
Columbia Basin Project	835	153,640	153,640							0.0	6.6		0	7
Hungry Horse Project	52	9,012	9,012							0.0	0.0		0	0
Lower Columbia Development	40	6,182	6,182							0.0	-		0	-
Minidoka Project	152	24,343	24,343							0.0	0.0		0	0
Rogue Project	6	1,105	1,105							0.0	0.0		0	0
Snake River Development	40	7,868	7,868							0.0	-		0	-
The Dalles Project	31	5,672	5,672							0.0	0.0		0	0
Upper Columbia Development	45	7,906	7,906	1	1		5	5	126.5	126.5	-	632	632	-
Vale Project	25	2,954	2,954							0.0	0.0		0	0
Yakima Project	29	4,602	4,602								0.0			0
Totals and Averages	1,519	269,014	269,014	1	1		5	5	3.7	3.7	3.9	19	19	4
REGION 2														
Sacramento Regional Office	615	108,240	108,240							0.0	19.7		0	69
Folsom Field Division	62	11,121	11,121							0.0	0.0		0	0
Fresno Field Division	152	26,752	26,752							0.0	36.4		0	983
Shasta Field Division	114	20,064	20,064							0.0	0.0		0	0
Tracy Field Division	182	33,380	33,380							0.0	61.6		0	185
Distribution System Projects	21	3,695	3,695							0.0	0.0		0	0
El Dorado Projects	33	5,808	5,808							0.0	0.0		0	0
Klamath Project	34	6,031	6,031							0.0	0.0		0	0
Lahontan Basin Project	26	4,576	4,576							0.0	0.0		0	0
Red Bluff Office	115	20,240	20,240							0.0	0.0		0	0
San Luis Unit	287	50,512	50,512	1	1		14	14	19.8	19.8	0.0	277	277	0
Trinity River Division	223	39,748	39,748							0.0	0.0		0	0
Willows Field Office	8	1,408	1,408							0.0	-		0	-
Totals and Averages	1,872	331,575	331,575	1	1		14	14	3.0	3.0	16.2	42	42	129
REGION 3														
Boulder Regional Office	141	24,816	24,816							0.0	0.0		0	0
Boulder City Development	11	1,936	1,936							0.0	-		0	-
Boulder Canyon Project	145	25,655	25,655	1	1		3	3	39.0	39.0	0.0	117	117	0
Colorado River FW & LS	80	12,930	12,930							0.0	0.0		0.0	0
Parker-Davis Project	295	54,935	54,935	1	1		11	11	18.2	18.2	0.0	200	200	0
Phoenix Development	96	16,896	16,896				40	40	59.2	59.2	-	2,367	2,367	-
Southern California Development	8	2,208	2,208							0.0	-		0	-
Yuma Projects	152	21,845	21,845							0.0	0.0		0	0
Totals and Averages	928	161,221	161,221	3	3		54	54	18.6	18.6	[illegible]	139	139	0
REGION 4														
Salt Lake Regional Office	314	72,718	72,718							0.0	0.0		0	0
Emery County Project	34	5,050	5,050							0.0	0.0		0	0
Central Utah Projects	133	23,865	23,865							0.0	0.0		0	0
Curecanti Unit	83	15,672	15,672							0.0	0.0		0	0
Flaming Gorge Unit	154	17,992	17,992							0.0	0.0		0	0
Glen Canyon Unit	346	64,164	64,164							0.0	17.3		0	12,767
Navajo Unit	41	7,645	7,645							0.0	0.0		0	0
Transmission System Office	77	13,552	13,552							0.0	0.0		0	0
Durango Projects	88	14,203	14,203							0.0	62.6	1	0	501
Logan Development	14	2,400	2,400							0.0	0.0		0	0
Seedskadee Project	71	11,151	11,151							0.0	0.0		0	0
Upper Green River Project	20	3,160	3,160							0.0	0.0		0	0
Weber Basin Project	197	36,148	36,148							0.0	0.0		0	0
Grand Junction Office	101	18,848	18,848							0.0	36.5		0	1,240
Totals and Averages	1,673	306,568	306,568							0.0	10.6		0	2,753
REGION 5														
Amarillo Regional Office	109	17,440	17,440							0.0	0.0		0	0
Albuquerque Development	32	5,063	5,063							0.0	-		0	-
Austin Development	78	10,117	10,117							0.0	0.0		0	0
Canadian River Project	129	20,894	20,894							0.0	0.0		0	0
Lower Rio Grande Rehab.	55	10,120	10,120							0.0	0.0		0	0
Middle Rio Grande Project	244	38,101	38,101							0.0	0.0		0	0
Norman Project	75	10,981	10,981							0.0	0.0		0	0
Oklahoma City Development	30	4,832	4,832							0.0	0.0		0	0
Rio Grande Project	263	46,110	46,110							0.0	42.3		0	211
San Angelo Project	59	14,232	14,232							0.0	0.0		0	0
Navajo Project	2	56	56							0.0	-		0	-
Wichita Project	54	8,608	8,608							0.0	0.0		0	0
Totals and Averages	1,130	186,554	186,554							0.0	10.8		0	56
REGION 6														
Billings Regional Office	217	37,862	37,862							0.0	0.0		0	0
Canyon Ferry Project	19	3,044	3,044							0.0	0.0		0	0
East Bench Project	70	10,774	10,774							0.0	0.0		0	0
Fort Peck Project	36	6,096	6,096							0.0	0.0		0	0
Missouri-Oahe Projects	276	46,134	46,134							0.0	0.0		0	0
Missouri-Souris Projects	129	23,611	23,611							0.0	58.0		0	348
Power System Operations	40	9,600	9,600							0.0	0.0		0	0
Riverton Project	33	4,843	4,843							0.0	0.0		0	0
Upper Missouri Projects	96	14,328	14,328							0.0	0.0		0	0
Yellowtail Project	109	16,207	16,207							0.0	0.0		0	0
Totals and Averages	1,035	172,499	172,499								6.5			39
REGION 7														
Denver Regional Office	167	29,392	29,392							0.0	0.0		0	0
Denver Development	31	5,384	5,384							0.0	0.0		0	0
Pryingman-Arkansas Project	50	6,903	6,903							0.0	-		0	-
Kansas River Projects	328	57,728	57,728							0.0	17.6		0	141
Niobrara-Lower Platte Projects	311	49,760	49,760								0.0			0
North Platte River Projects	300	48,001	48,001				10	10		0.0	0.0	208	208	0
South Platte River Projects	172	30,272	30,272	1	1		2	2	33.0	33.0	32.5	66	66	325
Totals and Averages	1,359	227,440	227,440	1	1		12	12	4.4	4.4	9.1	53	53	82
CONSOLIDATED TOTALS	~~11,209~~	~~1,952,485~~	1,952,485	6	6	0	85	85	3.1	3.1	7.6	44	44	465
TOTALS LAST YEAR (1962)	11,190		2,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 1962 THROUGH January 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	11	1,533	1,533							0.0	0.0		0	0
Columbia Basin Project	100	9,036	9,036							0.0	0.0		0	0
Coeur d' Alene	18	2,268	2,268							0.0	-		0	-
Rogue Project	23	2,828	2,828							0.0	0.0		0	0
The Dalles Project	27	3,759	3,759							0.0	-		0	-
Vale Project	90	10,109	10,109							0.0	-		0	-
Yakima Project	10	1,400	1,400							0.0	0.0		0	0
Snake River Development	1	24	24							0.0	-		0	-
Minidoka Project	2	170	170							0.0	-		0	-
Totals and Averages	282	31,527	31,527							0.0	0.0		0	0
REGION 2														
Distribution System Projects	90	12,378	12,378	2	2		15	15	161.6	161.6	80.1	1,212	1,212	2,282
El Dorado Project	47	4,720	4,720							0.0	0.0		0	0
Red Bluff Office	204	35,904	35,904							0.0	-		0	-
San Luis Unit	29	3,088	3,088							0.0	-		0	-
Tracy Field Division	15	2,311	2,311							0.0	-		0	-
Trinity River Division	517	92,450	92,450	1	1		4	4	10.8	10.8	19.6	43	43	926
Totals and Averages	902	150,851	150,851	3	3		19	19	19.9	19.9	25.8	126	126	1,027
REGION 3														
Parker-Davis Project	164	15,180	15,180							0.0	-		0	-
Yuma Projects	6	36	36							0.0	0.0		0	0
Colorado River FW & LS	6	778	778							0.0	-		0	-
Totals and Averages	176	15,994	15,994							0.0	0.0		0	0
REGION 4														
Central Utah Projects	29	2,005	2,005							0.0	0.0		0	0
Curecanti Unit	205	43,277	43,277							0.0	0.0		0	0
Flaming Gorge Unit	390	56,664	56,664	1	1		60	60	17.6	17.6	0.0	1,059	1,059	0
Glen Canyon Unit	1,834	294,122	294,122	4	4		89	89	13.6	13.6	36.3	303	303	1,544
Navajo Unit	93	16,731	16,731							0.0	0.0		0	0
Florida Division	34	5,959	5,959							0.0	98.2		0	2,259
Grand Junction Projects	16	2,810	2,810							0.0	36.3		0	363
Seedskadee Project	93	12,288	12,288							0.0	0.0		0	0
Weber Basin Projects	185	27,195	27,195				6	6	36.8	36.8	0.0	221	221	0
Totals and Averages	2,883	461,051	461,051	6	6		155	155	13.0	13.0	29.1	336	336	1,048
REGION 5														
Amarillo Regional Office	11	2,147	2,147							0.0	-		0	-
Canadian River Project	299	92,862	92,862							0.0	-		0	-
Lower Rio Grande Rehab.	179	17,766	17,766							0.0	0.0		0	0
Norman Project	93	6,700	6,700							0.0	-		0	-
Rio Grande Project	17	2,574	2,574							0.0	-		0	-
San Angelo Project	172	30,713	30,713							0.0	48.7		0	506
Wichita Project	34	5,004	5,004							0.0	-		0	-
Totals and Averages	775	157,766	157,766							0.0	37.7		0	392
REGION 6														
East Bench Project	165	12,019	12,019	2	2		25	25	166.4	166.4	0.0	2,080	2,080	0
Missouri-Oahe Projects	86	7,379	7,379							0.0	0.0		0	0
Missouri-Souris Projects	86	5,381	5,381							0.0	220.0		0	9,798
Riverton Project	13	729	729							0.0	0.0		0	0
Upper Missouri Projects	10	1,052	1,052							0.0	-		0	-
Yellowtail Project	286	40,581	40,581							0.0	0.0		0	0
Totals and Averages	616	67,141	67,141				25	25	29.8	29.8	11.5	372	372	1,036
REGION 7														
Kansas River Projects	113	13,553	13,553							0.0	0.0		0	0
Niobrara-Lower Platte Projects	168	20,372	20,372							0.0	0.0		0	0
North Platte River Projects	16	593	593							0.0	0.0		0	0
South Platte River Projects		150	150							0.0	0.0		0	0
Totals and Averages	290	34,668	34,668							0.0	0.0		0	0
CONSOLIDATED TOTALS	5,924	918,998	918,998	11	11	0	199	199	12.0	12.0	25.0	217	217	839
TOTALS LAST YEAR (1962)	8,141	16,509,276			353	9		76,799		21.4			4,652	

* FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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February 1963

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Safety Performance Record

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Front Cover Photo: Commissioner Floyd E. Dominy (right) presenting the Commissioner's Annual Safety Award for 1962 to Regional Director H. P. Dugan, Region 7, Denver. Bureau of Reclamation photo.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
(January 1, 1963 - February 28, 1963)

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 4	0.0	0	0.0	2.7
Region 6	0.0	0	0.0	8.2
Alaska District	0.0	0	0.0	0.0
Region 1	4.0	20	0.8	0.0
Region 2	4.9	60	2.9	3.8
Region 5	5.4	24	1.3	6.7
Region 7	6.9	1,416	97.7	7.4
Region 3	9.7	200	19.4	2.3
Totals to Date	3.8	201	7.6	4.3
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 7	0.0	0	0
Region 3	0.0	0	0
Region 5	3.6	75	0
Region 4	15.3	427	0
Region 6	28.9	267	0
Region 2	43.1	23,854	1
Totals to Date	17.3	3,768	1
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date:
February 28, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	2	53
12	Handling Material	5	53
14	Falls of Persons	3	16
16	Striking Against	2	610
20	Not otherwise classified	2	12
	Totals	14	744

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	869,685	0	0	0.0	0
Construction	961,844	3	37	3.1	38
Design	382,993	1	7	2.6	18
Investigation	471,727	6	660	12.7	1,399
O&M - Irrigation	426,108	1	7	2.3	16
O&M - Power	580,018	3	33	5.2	57
Totals & Averages	3,692,375	14	744	3.8	201

ACCIDENT REVIEW

FALLING ROCK

Employer: Contractor
Activity: Drilling holes in tunnel roof.
Accident Situation and Occurrence: A miner was drilling pinholes in arch of tunnel for hanging steel. The vibration caused rock weighing about 100 pounds to fall and strike employee on ankle. Fractured bone in right ankle with estimated time loss of 30 days.
Cause Determination: Before starting to drill, roof area should be examined and any loose rock barred down. A constant check should also be made during drilling.

LIFTING

Employer: Contractor
Activity: Lifting a bridge beam.
Accident Situation and Occurrence: A laborer was lifting a bridge beam and sprained his back. Time lost was 3 days. Mechanical handling devices should be used to lift heavy beams.

HOUSEKEEPING

Employer: Contractor
Activity: Placing axle tube in truck.
Accident Situation and Occurrence: While installing axle tube in place on a truck, the employee handling the hammer swung back, hooked a broom with the hammer, causing the broom to strike the mechanic's knee. Time lost was 6 days. Poor housekeeping - broom in the way of the work area.

FALL

Employer: Government
Activity: Surveying.
Accident Situation and Occurrence: While using stadia board, the employee slipped on a snowy hillside and fell striking his jaw with the stadia board. Fractured tooth with 2 days' lost time. Extreme care must be used in walking over rough terrain covered with ice and snow.

FROM THE FIELD

Coeur d'Alene Project. The Seattle Subdistrict Office of the U.S. Bureau of Mines has extended congratulations to the Coeur d'Alene Project Office personnel for 100 percent participation in their first aid training course. The project will be presented with a 100 percent first aid certificate from the Bureau of Mines.

Denver Office. Chief Safety Engineer Howard Latham attended the meeting of the Construction Section, Executive Committee, of the National Safety Council at Chicago, Illinois, February 27-28. Mr. Latham is a member of the Committee's Heavy Construction Division.

Wichita Project. Reflective tape was installed on hard hats of all Government employees working in the field to help prevent injuries to them from earth-moving equipment during hours of darkness.

Albuquerque Development. Preventive accident measures in operation and maintenance of the nuclear moisture meter equipment were again discussed at the two 5-minute safety meetings. Film badges worn by the nuclear equipment operators show exposures to be far below the reportable safe limit.

Colorado River FW&LS. Shop personnel held a meeting in which the following subjects were discussed: safety precautions necessary when operating bench and stand grinders, correct use of steam hoses and cleaners, and the use of padlocks to lock a machine thus preventing movement while work is being performed on it.

Seedskadee Project. A meeting of the Fire Department was conducted February 13 at 12:45 and 3:45 in the conference room. A talk was given on the types of fires and how to extinguish them. A short film entitled "Fire-Cause for Alarm" was shown.

Yuma Projects. Sixteen construction inspectors and field supervisors have completed a questionnaire on the contents of "Safety Requirements for Construction by Contract." All received acceptable grades. Additional tests are planned for personnel in engineering and maintenance operations.

Norman Project. A letter pointing out the laxity on several safety items that need to be corrected was sent to the prime contractor from the Project Construction Engineer's Office.

Columbia Basin Project. Fifty project employees completed a Bureau of Mines First Aid Course and were issued certificates. The classes were instructed and examined by two project employees holding Bureau of Mines instructor and examiner cards. This completes the requirements for training all supervisors of field personnel.

Central Utah Projects. Items discussed by field personnel at weekly toolbox safety meetings concerned misuse of stadia boards to vault across ditches, etc., driving on dikes which have loose shoulders; caution while chopping holes in ice with axes, and care to be used while crossing fences.

Canadian River Project. The Canadian River Project, Region 5, has won First Place Awards in Group C--Construction and Group C--Industrial Fleet in the Texas Industrial Safety Contest for 1962.

Region 7 Office. The regional office has been awarded the Department of the Interior Certificate of Safety Achievement for 507,616 man-hours of supervision without a disabling work injury during the period March 1, 1961-September 30, 1962.

Kansas River Projects. This office has been awarded the Department of the Interior Certificate of Safety Achievement for 506,446 man-hours of work without a disabling injury during the period January 14, 1962-October 5, 1962.

Niobrara-Lower Platte Projects. This office has been awarded the Department of the Interior Certificate of Safety Achievement for 503,408 man-hours of work without a disabling injury during the period November 7, 1961-August 15, 1962.

WATER SAFETY

Yakima Project. The Yakima County Water Safety Committee is sponsoring a special safety program for the participation of youth groups. The program will be held on Saturday April 6. It will be supported by marine displays, including boats, motors, scuba equipment, and all related equipment which will be exhibited by the Yakima County water sports supply dealers.

Organized youth groups are invited to participate in a community water safety display, pageant, exhibit, or demonstration. The theme will be "Play Safe and Be Safe in Water Sports."

Niobrara-Lower Platte Projects. The Sherman-Howard County Water Safety Council's regular meeting was held in Farwell, Nebraska, February 12. A report was made on the progress of the Water Safety Course being given in five of the high schools in Howard County. Council members who have attended the sessions were impressed with the subjects being presented. Mr. Dudley Osborn, Nebraska State Game Commission, is presenting the course.

Projects Safety Officer L. K. Simon gave talks on water safety before Agricultural Extension Groups at Farwell, Nebraska. The text of the material presented covered the objectives of the Water Safety Council. Each group was asked to support the Council in its efforts to stimulate community interest and action in water safety.

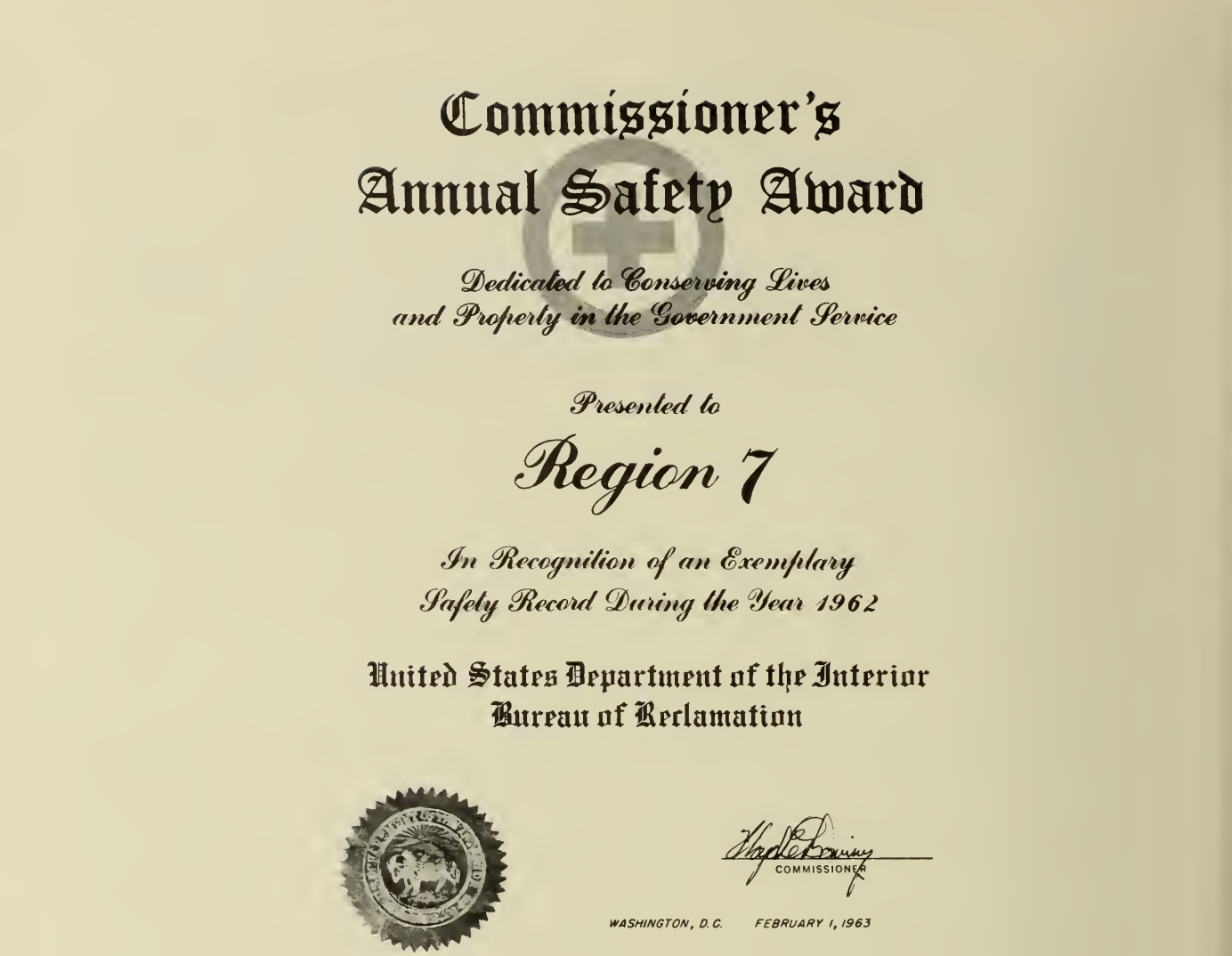
Kansas River Projects. Operation West Wide Water Safety Schools of Instruction to a total of 16 public schools and other organizations have been accomplished this year to date. This instruction has been given to a total attendance of 2,354, and 11 of the 16 groups have been to public schools in Kansas and Nebraska.

Hungry Horse Project. Regional Safety Engineer H. E. Wersen visited the project for 2 days in February for the purpose of setting up a recreational safety program in the area. Preliminary contacts had been made with the Flathead Life Saving and Rescue Association, and they are interested in cooperating in this program. The region will forward material promoting the program to the project for distribution to the Association.

Parker-Davis Project. The Project Safety Officer will contact the National Park Service and Fish and Wildlife Service representatives during his next trip to Yuma, Parker Dam, and Davis Dam, and will offer the assistance of the Bureau for any meetings, programs, etc., which can be arranged in connection with the water safety program. The above Interior agencies are responsible for the administration of the reservoir areas concerned.

Yakima Project. Fluctuation signs will be installed at various locations along streams controlled by Bureau reservoirs. These signs are being erected for the safety of the general public using the streams for recreational purposes.

Logan Development. Two meetings of the Cache County Water Safety Council were held on February 1 and February 18 at the Bureau Office. During these two meetings permanent term officers and committee chairmen were elected. The elected officers will constitute an executive committee charged with the formulation of minimum bylaws under which the council will be governed upon their adoption.



1962 SAFETY AWARD TO REGION 7

The front cover photo shows Commissioner Floyd E. Dominy (right) presenting the Commissioner's Annual Safety Award to Regional Director H. P. Dugan, for Region 7's outstanding safety record in 1962. The Region 7 accident frequency rate of 1.9 and severity rate of 21 represented only 5 disabling injuries in the 2,665,668 man-hours worked. The award was established in 1961 as a means of recognizing the region which had the best exemplary safety record, and was won that year by Region 4. The award consists of a certificate (above) and a letter of commendation from the Commissioner.

* * * * *

BUREAU OF RECLAMATION
FIRE LOSS--FY 1962

DATE	PROPERTY DESCRIPTION	CAUSE CODE	CAUSE OF FIRE LOSS	EST. OF $ LOSS	INJURY
7-30-61	Wall in concrete laboratory building	(4)	Overheated sulphur pot	$ 122	None
9-28-61	Attic room, Alcova Camp, Wyoming	(3)	Faulty electric heater	800	None
10-23-61	Used lumber in material yard	(4)	Spark from incinerator	300	None
11-14-61	Quonset hut	(3)	Defective electric wiring	3,000	None
1-22-62	Insulation--trailer house	(4)	Thawing frozen water pipes with torch	10	None
4-30-62	Housing for radio relay equipment	(12)	Ignition of gasoline vapor	4,000	None
5-24-62	Regional Office maintenance shop	(7)	Oil furnace overheated	350	None
	Total number fires - 7		Total dollar loss	$8,582	

Don Humes, Acting Irrigation Supervisor, Columbia Basin Project, Ephrata, Washington, (left) presents Irrigation's "Best Safety Record" plaque to Marvin Sektnan, Royal Branch Manager, (right) while Project Safety Engineer Don Ennis looks on.

The plaque is awarded annually to the Irrigation Branch in the Columbia Basin Project having the lowest injury frequency rate. The Royal Branch won the plaque in 1962 for the first time although they had previously turned in 2 disabling injury-free years. During those 2 years, the plaque went to other branches having perfect records and a larger man-hour exposure. The plaque was earned with a 1962 record of no disabling injuries and a man-hour exposure of 56,000.

Don Humes, Acting Irrigation Supervisor, Columbia Basin Project, presents safety plaques to Watermaster Sections having completed 1962 without a disabling injury. From left to right are Mr. Humes; Lawrence Howe, Watermaster, Blythe Section; Paul Fitzhugh, Watermaster, Adco; Joe Woolf, Watermaster, Winchester; Marvin Sektnan, Manager, Royal Branch; George Scherer, Watermaster, Mesa; Gustav Becker, Watermaster, Royal; and Doff Allen, Watermaster, Warden.

EXCERPTS FROM SAFETY REQUIREMENTS FOR CONSTRUCTION BY CONTRACT

Section V

PHYSICAL QUALIFICATIONS OF EMPLOYEES

5-1. All persons employed throughout the course of the contract shall be physically qualified to perform his or her assigned duties. No person shall knowingly be permitted or required to work while his ability or alertness is so impaired because of fatigue, illness, or any other reason, that it may expose him or others to injury.

5-2. The contractor shall comply with all applicable Federal and State laws and codes relative to employment of minors and women.

5-3. It is recommended that operators of trucks and heavy construction equipment be given physical examinations in order to determine if they are physically qualified to perform their assigned work without endangering themselves or others.

Section VI

HEALTH AND SANITATION REQUIREMENTS

DRINKING FACILITIES

6-1. Clean, potable drinking water shall be provided from sources meeting Federal, State or local health requirements.

6-2. Drinking water obtained from streams, wells, or other temporary source shall be laboratory tested for bacteria at least monthly, and oftener if occasion demands, and the Contracting Officer or his authorized representative provided with copies of the results. Water found to be unsuitable shall not be used for drinking or domestic purposes until treated as prescribed by Federal, State, or local health authorities and certified as suitable for consumption.

6-3. Drinking water shall be transported and dispensed by means which prevent contamination between source and consumer. Dispensers shall be covered, and thoroughly cleaned and sterilized at least once each week.

6-4. All outlets dispensing nonpotable water will be conspicuously posted as dispensing water unfit for drinking.

6-5. Use of drinking water containers such as cups or glasses by more than one individual is prohibited unless the containers are sterilized between uses.

6-6. Salt tablet dispensers shall be installed and maintained at drinking fountains during periods when conditions warrant. A receptable shall be provided for disposal of paper drinking cups.

WASHING FACILITIES

6-7. Washing and bathing facilities shall be provided as necessary to maintain healthful and sanitary conditions for all employees.

6-8. Construction camps shall be provided with washing and bathing facilities sufficient to meet local and State sanitation standards. In no event shall there be less than one lavatory for every 10 persons, nor less than one shower or tub for every 15 occupants of a barracks.

6-9. Each washing facility shall be maintained in a sanitary condition and provided with adequate hot and cold water, soap, individual towels of cloth or paper, and covered receptacles for disposal of waste.

6-10. Separate washing facilities shall be provided for male and female employees.

EATING FACILITIES

6-11. Eating facilities established by the contractor shall comply with local, State, and Federal laws and sanitation codes. Buildings housing eating facilities shall be floored completely, painted, well lighted, heated, and ventilated. All doors and windows shall be equipped with screens.

6-12. Employees preparing or handling food shall undergo regular medical examination and possess a food handler's certificate issued by an appropriate Government agency. Such employees shall evidence cleanliness in person, habits, and clothing.

SLEEPING FACILITIES

6-13. Sleeping quarters provided shall be relatively quiet, kept clean and orderly, and be adequate for healthful sleep.

6-14. Sleeping rooms shall offer relative privacy, with a maximum of four persons in a room. Rooms shall be adequately

heated and ventilated and shall have a minimum of 250 cubic feet of air space for each person occupying the room.

6-15. Sleeping quarters shall be painted, well lighted, and have wooden or impervious floors. All doors and windows shall be equipped with screens.

6-16. Sleeping quarters shall meet all applicable Federal, State, and/or local sanitation codes, and are subject to regular inspection by these agencies.

6-17. Sleeping or bunking facilities constructed on site by the contractor shall be restricted to one-story buildings, with adequate, properly indicated fire exits, and provision for adequate fire protection.

TOILET FACILITIES

6-18. Following is the minimum requirement for toilet facilities:

a. Temporary facilities--one for every 30 persons.

b. Permanent facilities: (Barracks, offices, shops, etc.)

1 to 9 persons	1 toilet
10 to 24 persons	2 toilets
25 to 49 persons	3 toilets
50 to 74 persons	4 toilets
75 to 100 persons	5 toilets
Over 100 persons	5 plus 1 for each additional 30 persons.

6-19. For male employees, urinals instead of toilets may be substituted in a ratio not exceeding one-third of the total required.

6-20. At locations where sewerage facilities are not available, necessitating the use of temporary toilets, such toilets shall be constructed over ground pits or separate containers equipped with tight-fitting lids. Each men's toilet shall be equipped with a metal or porcelain urinal trough.

6-21. Temporary toilets shall be constructed so that the occupants are shielded from view and protected against weather and falling objects. All cracks shall be sealed, vents provided, and the doors, vents and windows screened. Seat boxes shall be vented to the outside (minimum vent size 4-inch inside diameter) with screened vent intake located 1 inch below the seat. Pit or other temporary-type toilets shall be maintained in a clean and sanitary condition and pit toilets treated with lime

daily. Seats shall be scrubbed regularly with soap and water and sterilized with an antiseptic solution at least once a week. Privy pits shall be abandoned and backfilled when refuse is within 2 feet of the ground surface.

6-22. Separate toilet facilities shall be provided for male and female employees.

GARBAGE FACILITIES

6-23. Camp garbage shall be kept in closed, fly-tight, metal containers and collected not less than once a week. All garbage or refuse shall be disposed of in designated areas in a manner as stipulated by the Contracting Officer or his authorized representative.

6-24. No garbage, refuse, or sewerage shall be disposed of in lakes, reservoirs, rivers, streams, or ditches.

INSECTS, VERMIN, SNAKES, AND RODENTS

6-25. Protection against hazards involving insects, vermin, or snakes shall include the following controls as are necessary to eliminate the hazard:

a. Education and instruction of employees regarding the hazard.

b. Boots, hoods, netting, gloves, masks, or other protective clothing or devices.

c. Repellents (i.e., insecticides, rodenticides, etc.)

d. Drainage and/or spraying of breeding areas.

e. Burning or destruction of nests.

f. Smudge pots for protecting small areas.

g. Elimination of unsanitary conditions which breed and propagate insects and vermin.

h. Extermination measures (i.e., barriers, poison baits, and traps).

i. Fumigation.

j. Inoculation and medically approved first-aid remedies.

POISONOUS PLANTS

6-26. In areas where employees are exposed to poison ivy, oak, sumac, or other poisonous plants, the following protective measures shall be taken:

a. All employees shall be instructed in identification of the plants, and advised of preventive measures.

b. Where practicable, the plants shall be removed or destroyed.

c. Suitable protective clothing, gloves, etc., shall be worn to reduce exposure.

d. Immunization and protective ointments shall be provided in areas where the exposure is severe.

e. Medically approved first-aid remedies shall be provided for treatment of affected employees.

HERBICIDES

6-27. Storage, handling, and use of herbicides shall be in accordance with the manufacturer's recommendation, and under supervision of qualified employees. Employees shall not be permitted to use chemical herbicides until they are fully instructed in the safe handling and use of the herbicide.

6-28. Herbicides which are injurious or poisonous shall be stored in airtight containers and kept in buildings or protected areas accessible only to authorized employees.

Section VII

PROTECTIVE CLOTHING AND EQUIPMENT

GENERAL

7-1. The contractor shall furnish and maintain protective equipment and clothing as specified in this section.

7-2. Protective clothing or equipment required for the protection of head, eyes, and respiratory organs shall meet the specification requirements established in ASA Z2.1, Safety Code for Head, Eye, and Respiratory Protection.

HARD HATS

7-3. "Hard Hat Areas" shall include all locations where construction work of any nature is in progress, and shall encompass the entire jobsite with exception of the interior of shops, offices, and parking areas. "Hard Hat Areas" shall be designated by the Contracting Officer's authorized representative, and all employees (including equipment operators and field mechanics) and others entering the area shall be required, without exception, to wear hard hats. Hard hats will be made available to, and provided for, visitors entering the "Hard Hat Areas."

7-4. Signs, 3 by 4 feet in size, with the following wording shall be erected at the access to these areas:

"Construction Area--Hard Hats Required
Beyond This Point."

The signs shall be furnished and erected by the contractor at locations designated by the Contracting Officer's authorized representative.

7-5. Nonmetal hard hats passing both Federal specifications for construction workmen's hats and Edison Institute specifications for electrical resistance shall be provided for electricians and linemen.

7-6. Winter hard hat liners shall be provided when weather conditions warrant.

7-7. Serviceable hat linings, cradles, and shells shall be cleaned and sterilized before reissue to workmen.

SAFETY GOGGLES AND FACE SHIELDS

7-8. Appropriate-type safety goggles, face masks, shields, or helmets shall be worn by employees performing the following or similar operations:

a. Sledging; hammering on metal, stone, and concrete; chipping; calking; use of manual and power impact tools such as chisels, punches, steel drivers, etc.

b. Sealing, grinding, cutting or dressing of metals, stone, or masonry products; and operations where protection from dust and small particles is necessary.

c. Babbitting, soldering, pouring lead joints, casting molten metal; handling hot tar, asphaltic material, oils, liquids, and other molten substances.

d. Handling of acids, caustics, hot liquids, creosote; and operations where protection from gases, fumes, and noxious liquids is necessary.

7-9. Drillers and helpers operating pneumatic rock drills shall wear protective safety goggles.

DFG-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH February 28, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	243	36,936	79,704							0.0	0.0		0	0
Denver Office	1,435	218,120	467,512	1	1		7	7	4.6	2.1	2.2	32	15	61
Alaska District	36	5,103	10,607							0.0	0.0		0	0
REGION 1														
Boise Regional Office	169	24,076	51,561							0.0	0.0		0	0
Central Snake Projects	46	6,253	13,205							0.0	0.0		0	0
Chief Joseph Dam Project	37	6,075	14,944							0.0	0.0		0	0
Coeur d'Alene Project	14	2,040	4,464							0.0	--		0	--
Columbia Basin Project	844	135,040	288,680							0.0	3.5		0	3
Hungry Horse Project	51	8,839	17,851							0.0	0.0		0	0
Lower Columbia Development	39	5,155	11,337							0.0	--		0	--
Minidoka Project	148	21,138	45,481							0.0	51.9		0	182
Rogue Project	6	891	1,996							0.0	0.0		0	0
Snake River Development	39	6,130	13,998							0.0	--		0	--
The Dalles Project	31	5,069	10,741							0.0	0.0		0	0
Upper Columbia Development	45	6,523	14,429	1	2		5	10	153.3	138.6	--	766	693	--
Vale Project	21	3,233	6,187							0.0	0.0		0	0
Yakima Project	29	3,967	8,569							0.0	0.0		0	0
Totals & Averages	1,519	234,429	503,443	1	2		5	10	4.3	4.0	6.2	21	20	16
REGION 2														
Sacramento Regional Office	587	89,224	197,464							0.0	15.8		0	48
Folsom Field Division	62	9,398	20,519							0.0	0.0		0	0
Fresno Field Division	148	22,496	49,248							0.0	20.0		0	541
Shasta Field Division	113	17,176	37,240							0.0	0.0		0	0
Tracy Field Division	181	29,986	63,366							0.0	32.8		0	590
Distribution System Projects	13	2,452	6,147							0.0	0.0		0	0
El Dorado Projects	29	4,408	10,216							0.0	0.0		0	0
Klamath Project	33	5,069	11,100							0.0	0.0		0	0
Lahontan Basin Project	25	3,800	8,376							0.0	0.0		0	0
Red Bluff Office	116	17,632	37,872							0.0	0.0		0	0
San Luis Unit	321	48,792	99,304	1	2		5	19	20.5	20.1	0.0	102	191	0
Trinity River Division	216	32,832	72,580	1	1		18	18	30.5	13.8	0.0	548	248	0
Willows Field Office	8	1,216	2,624							0.0	--		0	--
Totals & Averages	1,852	284,481	616,056	2	3		23	37	7.0	4.9	10.4	81	60	125
REGION 3														
Boulder Regional Office	129	22,648	47,464							0.0	0.0		0	0
Boulder City Development	9	1,368	3,304							0.0	--		0	--
Boulder Canyon Project	143	25,075	50,730		1			3		19.7	17.7		59	159
Colorado River FW&LS	80	12,773	25,703							0.0	45.0		0	90
Parker-Davis Project	295	46,447	101,382		1			11		9.9	0.0		108	0
Phoenix Development	96	16,896	33,792		1			48		29.6	--		1,420	--
Southern California Development	16	1,782	3,990							0.0	--		0	--
Yuma Projects	146	21,691	43,536							0.0	0.0		0	0
Totals & Averages	914	148,680	309,901		3			62		9.7	7.3		200	40
REGION 4														
Salt Lake Regional Office	310	48,931	121,649							0.0	0.0		0	0
Emery County Project	38	6,066	11,116							0.0	0.0		0	0
Central Utah Projects	130	20,213	44,078							0.0	0.0		0	0
Curecanti Unit	84	13,639	29,311							0.0	0.0		0	0
Flaming Gorge Unit	151	22,882	40,874							0.0	0.0		0	0
Glen Canyon Unit	348	62,280	126,444							0.0	18.5		0	6,904
Navajo Unit			7,645							0.0	0.0		0	0
Transmission System Office	77	11,088	24,640							0.0	0.0		0	0
Durango Projects	74	11,727	25,930							0.0	32.9		0	263
Grand Junction Projects	94	14,240	33,088							0.0	20.5		0	699
Logan Development	14	2,080	4,480							0.0	0.0		0	0
Seedskadee Project	71	11,542	22,693							0.0	0.0		0	0
Upper Green River Project	19	3,040	6,200							0.0	0.0		0	0
Weber Basin Project	207	31,464	67,612							0.0	0.0		0	0
Totals & Averages	1,617	259,192	565,760							0.0	7.4		0	1,463
REGION 5														
Amarillo Regional Office	118	18,880	36,320							0.0	0.0		0	0
Albuquerque Development	33	5,259	10,322							0.0	--		0	--
Austin Development	78	11,389	21,506							0.0	0.0		0	0
Canadian River Project	140	22,648	43,542							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	55	8,800	18,920							0.0	0.0		0	0
Middle Rio Grande Project	246	38,706	76,807							0.0	0.0		0	0
Norman Project	76	11,645	22,626							0.0	0.0		0	0
Oklahoma City Development	30	4,447	9,279							0.0	0.0		0	0
Rio Grande Project	258	40,364	86,474	1	1		7	7	24.8	11.6	33.1	173	81	133
San Angelo Project	50	8,453	22,685							0.0	61.6		0	3,048
Navajo Irrigation Project	42	6,444	6,500	1	1		2	2	155.2	153.8	--	310	308	--
Wichita Project	55	8,662	17,270							0.0	0.0		0	0
Totals & Averages	1,181	185,697	372,251	2	2		9	9	10.8	5.4	13.6	48	24	303
REGION 6														
Billings Regional Office	237	37,700	75,562							0.0	0.0		0	0
Canyon Ferry Projects	18	2,781	5,825							0.0	0.0		0	0
East Bench Project	69	9,957	20,731							0.0	0.0		0	0
Fort Peck Project	36	5,269	11,365							0.0	0.0		0	0
Missouri-Oahe Projects	267	43,062	89,196							0.0	0.0		0	0
Missouri-Souris Projects	130	19,099	42,710							0.0	21.8		0	131
Power System Operations	42	6,400	16,000							0.0	0.0		0	0
Riverton Project	32	4,342	9,185							0.0	0.0		0	0
Upper Missouri Projects	88	12,819	27,147							0.0	34.6		0	104
Yellowtail Project	110	15,926	32,133							0.0	0.0		0	0
Totals & Averages	1,027	157,355	329,854							0.0	6.4		0	29
REGION 7														
Denver Regional Office	168	25,536	54,928							0.0	0.0		0	0
Denver Development	29	4,334	9,728							0.0	0.0		0	0
Fryingpan-Arkansas Project	51	5,623	12,526	2	2		600	600	355.7	159.7	--	106,705	47,900	--
Kansas River Projects	327	49,704	107,432							0.0	9.4		0	75
Niobrara-Lower Platte Projects	309	49,440	99,200							0.0	0.0		0	0
North Platte River Projects	299	47,840	95,841					10		0.0	0.0		104	0
South Platte River Projects	171	27,360	57,632		1			9		17.3	17.4		156	244
Totals & Averages	1,354	209,837	437,287	2	3		600	619	9.5	6.9	4.7	2,859	1,416	58
CONSOLIDATED TOTALS	11,178	1,739,830	3,692,375	8	14	0	644	744	4.6	3.8	7.1	370	201	298
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

* FATALITIES INCLUDED IN TOTAL DISABLING

GPO 940931

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH February 28, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	5	488	2,021							0.0	0.0		0	0
Columbia Basin Project	98	8,528	17,564							0.0	23.9		0	72
Coeur d'Alene Project	10	847	3,115							0.0	--		0	--
Minidoka Project			170							0.0	0.0		0	0
Rogue Project	12	1,466	4,294							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	38	5,825	9,584							0.0	--		0	--
Vale Project	78	11,431	21,940							0.0	--		0	--
Yakima Project	20	2,547	3,947							0.0	0.0		0	0
Totals & Averages	261	31,132	62,659							0.0	12.9		0	39
REGION 2														
Distribution System Projects	53	6,012	18,390		2			15		108.8	56.4		816	1,608
El Dorado Project	32	3,493	8,213							0.0	51.9		0	2,282
Red Bluff Office	153	23,256	59,160							0.0	0.0		0	0
San Luis Unit	86	7,147	10,235							0.0	0.0		0	0
Tracy Field Division	12	2,048	4,359							0.0	--		0	--
Trinity River Division	358	56,848	149,208	6	7		43	47	105.5	46.9	47.3	756	315	1,029
Klamath Project		426	426							0.0	--		0	--
Fresno Field Division	24	2,438	4,932	1	2	1	6,000	6,021	410.2	405.5	--	2,461,034	1,220,803	--
Totals & Averages	725	101,668	255,013	7	11	1	6,043	6,083	68.8	43.1	47.1	59,439	23,854	1,130
REGION 3														
Colorado River FW&LS			778							0.0	--		0	--
Parker-Davis Project	29	2,939	18,119							0.0	--		0	--
Yuma Projects		191	227							0.0	0.0		0	0
Totals & Averages	34	3,130	19,124							0.0	0.0		0	0
REGION 4														
Central Utah Projects	14	1,470	3,475							0.0	0.0		0	0
Curecanti Unit	197	39,466	82,743	2	2		72	72	50.7	24.2	0.0	1,824	870	0
Flaming Gorge Unit	422	66,766	123,430		1			50		8.1	8.0		405	398
Glen Canyon Unit	1,830	291,872	585,994		8		79	168	13.7	13.7	22.5	271	287	866
Navajo Unit			16,731							0.0	0.0		0	0
Florida Division	14	2,179	8,138							0.0	100.0		0	2,901
Grand Junction Projects	19	2,662	5,472							0.0	18.6		0	196
Seedskadee Project	122	19,501	31,789	1	1		90	90	51.3	31.5	0.0	4,615	2,831	0
Weber Basin Projects	222	32,467	59,662	1	2		6	12	30.8	33.5	47.6	185	201	48
Totals & Averages	2,840	456,383	917,434	8	14		247	392	17.5	15.3	22.0	541	427	727
REGION 5														
Amarillo Regional Office		715	2,862							0.0	--		0	--
Canadian River Project	324	63,396	156,258	1	1		21	21	15.8	6.4	0.0	331	134	0
Lower Rio Grande Rehabilitation	213	19,998	37,764							0.0	0.0		0	0
Norman Project	82	14,226	20,926							0.0	--		0	--
Rio Grande Project	21	2,871	5,445							0.0	--		0	--
San Angelo Project	96	14,688	45,401							0.0	33.6		0	302
Wichita Project	43	4,844	9,848							0.0	--		0	--
Austin Development	4	331	331							0.0	--		0	--
Oklahoma City Development	2	87	87							0.0	--		0	--
Totals & Averages	789	121,156	278,922	1	1		21	21	8.3	3.6	24.6	171	75	222
REGION 6														
East Bench Project	111	9,957	21,976	2	4		12	37	200.9	182.0	0.0	1,205	1,684	0
Missouri-Oahe Projects	58	6,589	13,977							0.0	0.0		0	0
Missouri-Souris Projects	61	4,508	9,889							0.0	100.9		0	9,082
Riverton Project	5	312	1,041							0.0	0.0		0	0
Upper Missouri Projects			1,052							0.0	--		0	--
Yellowtail Project	309	49,946	90,527							0.0	9.6		0	230
Totals & Averages	544	71,321	138,462	2	4		12	37	28.0	28.9	11.2	168	267	636
REGION 7														
Kansas River Projects	103	15,051	28,584							0.0	0.0		0	0
Niobrara-Lower Platte Projects	111	10,455	30,827							0.0	0.0		0	0
North Platte River Projects		784	1,377							0.0	0.0		0	0
South Platte River Projects	9	1,088	1,238							0.0	0.0		0	0
Totals & Averages	228	27,378	62,026							0.0	0.0		0	0
CONSOLIDATED TOTALS	5,421	812,168	1,733,640	18	30	1	6,323	6,533	22.2	17.3	24.2	7,785	3,768	633
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD

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UNITED STATES
DEPARTMENT OF THE INTERIOR
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OFFICE OF CHIEF ENGINEER

March 1963

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Front Cover Photo: Curecanti Unit--Blue Mesa Dam. View showing truss roof installed above the spillway inlet portal to protect workmen from falling rock. Reclamation photo P622A427-872

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
GOVERNMENT FORCES
January 1 - March 31, 1963

Region	Frequency rate	Severity rate	Injury* index	Vehicle accident rate
Region 4	0.0	0	0.0	2.7
Alaska District	0.0	0	0.0	0.0
Region 6	4.1	59	2.4	5.0
Region 7	4.6	648	29.8	5.8
Region 2	5.4	138	7.4	4.6
Region 1	6.6	37	2.4	0.0
Region 5	6.8	26	1.8	4.3
Region 3	8.6	204	17.5	1.5
Totals to Date	4.3	131	5.6	3.6
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

1963 CUMULATIVE SAFETY RECORD
CONTRACTOR FORCES
January 1 - March 31, 1963

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 7	0.0	0	0
Region 3	0.0	0	0
Region 5	2.3	48	0
Region 4	16.7	8,465	2
Region 2	30.9	31,144	1
Region 6	42.1	92,014	4
Totals to Date	17.2	17,117	7
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date: March 31, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	2	82
12	Handling Material	11	501
13	Falling Objects	1	11
14	Falls of Persons	5	27
17	Flying Particles	1	4
19	Machinery	1	90
20	Not otherwise classified	3	13
	Total	24	728

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	1,310,636	0	0	0.0	0
Construction	1,432,365	5	42	3.5	29
Design	585,634	1	7	1.7	12
Investigation	712,180	6	579	8.4	813
O&M-Irrigation	644,047	3	13	4.6	20
O&M-Power	868,708	9	87	10.4	100
Totals and Averages	5,553,570	24	728	4.3	131

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400

ACCIDENT REVIEW

TRACTOR

Employer: Contractor
Activity: Backfilling bridge abutment.
Accident Situation and Occurrence: A rubber-tired tractor was being used to backfill a bridge abutment located on an existing canal. The operator, in attempting to turn the tractor around, backed off the canal bank and overturned into the canal. The water was some 14 feet deep at the place of entry and the employee drowned.
Cause Determination: This was the employee's first day on the job. He started to work without adequate supervision and had not been checked out to see that he could properly operate the equipment.

LIFTING

Employer: Government
Activity: Lifting timber.
Accident Situation and Occurrence: Two workmen were on opposite sides of a trailer house kneeling and facing each other, with a 6- by 8-inch timber 8 feet long between them and to their right. In attempting to move the timber, one employee wrenched his back while lifting. Time lost was estimated at 18 days.
Cause Determination: Lifting while in an awkward position.

DOZER

Employer: Contractor
Activity: Repairing tractor dozer.
Accident Situation and Occurrence: A mechanic was repairing a D-8 dozer that was parked along the side of an access road. A fuel truck was parked beside the dozer. A loaded truck came down the access road and struck the fuel truck forcing it into the side of the dozer. The mechanic was caught between the fuel truck and the dozer and received a fracture to his right arm. Time lost was estimated at 45 days.
Cause Determination: Dozer should have been located out of truck traffic area. Repair work on equipment must be done in areas that are away and clear from other operations.

FROM THE FIELD

South Platte River Projects. Mr. Dan Winans, Regional Safety Engineer, presented the Project Safety Award plaque to the personnel of the Granby Branch. This award was made in recognition of having the largest man-hour total of the project units with no injuries.

The President's Medal, awarded by the National Safety Council, was presented to Loyd Vanderheiden, a lineman headquartered at Yuma, Colorado, by Paul Berg, Assistant Regional Director. This presentation was made to Mr. Vanderheiden in recognition of his saving a neighbor's life by applying mouth-to-mouth resuscitation.

North Platte River Projects. Mr. Henry L. Bashford, lineman, Cheyenne Area Lines Unit, was presented with a membership certificate to the "Turtle Club" by Power Division Chief Ralph D. Asbridge, at a presentation held at the Casper Office.

Hungry Horse Project. A fire drill at camp was conducted by the Fire Chief during the month. Regular monthly fire inspections were made. Two wall-mounted fire extinguishers in the powerhouse were relocated for better accessibility.

Norman Project. Two Denver-stationed Rotation Engineers reported to the Project for a 3 month's assignment. With the idea of developing safe employees, the Project's safety program was explained to them. Also, copies of the manual "Safety Requirements for Construction by Contract" were furnished for their personal use.

Florida Construction Division. Gordon Hill, Field Engineer, Lemon Dam, gave an outline of the part the inspectors are to participate in the safety program. Each inspector is to enforce compliance of safety regulations using utmost discretion. The inspectors are to realize that safety is a part of the contract and is to be treated with the same concern as to compliance as any other specification item.

Canadian River Project. The Joint Safety Policy Committee meeting was held March 28. This meeting was attended by the Project Construction Engineer and the Project Manager of the H. B. Zachry Company, and other key personnel of both organizations. Mr. Blackman was complimented for initiating a weekly bottom-dump Euclid inspection procedure. Other points discussed were traffic congestion in the flood control outlet works excavation, wearing of reflective equipment by root pickers and dump men on the fill.

As a constant reminder of the provisions of the manual "Safety Requirements for Construction by Contract," various photos of the

job are being captioned and distributed monthly to each Project division and contractor working on this Project.

Niobrara-Lower Platte Projects. On behalf of the Commissioner and the Regional Office, Director H. P. Dugan presented Project Manager Paul L. Harley with the Department of the Interior Certificate of Safety Achievement Award on March 21 for the Project's record of 503,408 man-hours without a disabling work injury.

The Project Safety Officer conducted a Standard Red Cross First-aid Course for residents of Boelus, Nebraska, during March. Certificates were issued to 31 participants who completed the 10 hours of instructions.

Wichita Project. The Joint Safety Policy Committee, composed of the Project Construction Engineer, Field Engineer, Safety Officer, Contractor's Superintendent and Supervisors, held a meeting March 6 to discuss job safety problems. Items discussed were: hoisting equipment, housekeeping, walkways, stairs, ramps, handrails, and operator physical examinations.

Six hoisting equipment operators were given physical examinations in compliance with Section 9-67, Safety Requirements for Construction by Contract.

Region 5 Office. Regional Safety Officer Aubrey V. Ruple was elected Chairman of the Amarillo Federal Safety Council at a meeting held on March 11. Articles of organization were prepared for submittal to the Chairman of the Federal Safety Council at Washington, D.C., for approval and presentation of a charter.

Region 1 Office. A very important part of any safety program is use of complete accident investigation and reporting procedures. In an endeavor to provide training in this area, arrangements have been made to conduct a training conference and workshop in the Boise Regional Office during a 2-day period, April 24-25, 1963. Project representatives within Region 1, who are involved in these investigations, will attend and participate in this workshop.

WATER SAFETY

RECLAMATION AND AMERICAN RED CROSS EXPAND "OPERATION WESTWIDE"

The American National Red Cross and the Bureau of Reclamation are joining forces to promote an expanded Water Safety Program to reduce the number of drownings and accidents in the numerous lakes, reservoirs, canals, and other water areas throughout the Western United States.

Red Cross and Reclamation representatives have collaborated in drawing up a list of principles and procedures for extending "Operation Westwide," an earlier educational program on water safety in eight Reclamation areas.

The extended and revitalized Operation Westwide is based on the experience gained under the earlier program and covers 18 additional Reclamation areas. It has the wholehearted endorsement of the Secretary of the Interior, Stewart L. Udall, Reclamation Commissioner Floyd E. Dominy, and Alfred M. Gruenther, President of the American National Red Cross. Reclamation and Red Cross representatives will cooperate actively in establishing, or strengthening, community organizations devoted to teaching and practice of water safety.

The program for achieving the safety objectives of the extended Operation Westwide includes classes in swimming and lifesaving, demonstrations at swimming areas, talks before civic and school groups, motion pictures, lifesaving contests, and recognition through all available media.

The safety program is being launched at a particularly appropriate time, since the 1963 recreation season is certain to bring record numbers of swimmers, boaters, and fishermen to Reclamation project areas.

The principles and procedures, listed in the agreement between the Red Cross and the Bureau of Reclamation, are as follows:

PRINCIPLES AND PROCEDURES IN EXTENDING OPERATION WESTWIDE

Introduction

Operation Westwide is the name given to a Bureau of Reclamation Waterproofing Project conducted in cooperation with the American Red Cross and other community organizations. Its objective is to help provide for the safety of those who through design or chance use the aquatic areas developed by the Bureau.

Operation Westwide, or a modification of it, is now operating in 14 locations within 7 Bureau regions. The purpose of "Extending Operation Westwide" is to broaden the scope of its influence to include 18 additional locations at this time.

Why Operation Westwide

In its effort to supply water to farmers and others in certain parts of the United States, the Bureau has developed water areas such as dams, reservoirs, irrigation canals and related facilities that have great appeal to those who participate in aquatic activities. While the Bureau's primary responsibility is the construction of dams, etc., it also recognizes its responsibility to help provide for the safety of those who use these facilities. Since the Bureau, because of its other activities is not equipped to "waterproof" the users of these areas; and since the business of saving lives is everybody's business, it is in the best interest of all concerned to bring knowledgeable individuals and interested community groups together in a concerted effort to save lives.

Because the American Red Cross has had nearly 50 years of experience in water safety, it is logical that the Bureau call upon the Red Cross for guidance and cooperation in this effort. Conversely, because the American Red Cross is a service organization whose sole reason for existence is to help others, the opportunity to work closely with the Bureau and community groups in this lifesaving project is in line with its stated purpose.

The Bureau of Reclamation--Its Responsibilities in Extending Operation Westwide

The Bureau, because of its structure and plan of operation, is in an excellent position to bring strength and leadership to the project. The following appear to be reasonable areas of responsibility for the Bureau.

1. Work closely with the American Red Cross in the preparation of material to be sent to Bureau and Red Cross personnel in the locations selected.

Comment: This should be the immediate responsibility of staff members located in the Washington Office of the Bureau and at National Headquarters of the American Red Cross; however, the services and facilities of field office (Bureau) shall be utilized as appropriate in the development of materials for these purposes.

2. Prepare (Washington Office) and send to each regional director a letter endorsing the project and recommending that a meeting be arranged with appropriate Red Cross officials and members of the regional office.

Comment: The appropriate Red Cross official is the Area Director of First Aid, Small Craft and Water Safety or his representative. The appropriate Bureau official is the Regional Director or his representative.

3. Regional Director prepare and send to the appropriate Bureau official at the location an endorsement of the program plus any additional information that was prepared in the Washington Office of the Bureau and/or Red Cross.

Comment: Letter should also contain information concerning any plans that might have been made as a result of the meeting involving the Regional Director and the Area Director of FASCWS.

4. Appropriate Bureau official at location and representative of local Red Cross chapter meet to discuss the project.

Comment: If the local chapter of the American Red Cross has an active and strong Water Safety Program, it would be well for the Bureau representative to request an expansion of the program to include activities related to the project. In this event the Water Safety Committee should be expanded to include representatives of interested community organizations. The Bureau representative should become a member of the committee.

In the event the American Red Cross chapter does not have a Water Safety Program but one exists in another community group, the same procedure is recommended. The chapter should be represented on this committee.

However, if the chapter does not have a strong Water Safety Program and none exists in the community, the Bureau representative should assume the responsibility for calling a meeting of all interested individuals and organizations. The details of this meeting should be planned in advance in cooperation with the local Red Cross chapter officials.

5. If it is necessary to organize a community water safety committee, the Bureau representative should assume this responsibility.

Comment: Bureau representative in cooperation with the local Red Cross chapter should invite representatives of community groups to be present at the meeting and should serve as temporary chairman. It probably would be in the best interests of all concerned if Bureau representatives gradually were able to turn positions of active leadership in local water safety programs over to residents of the individual communities concerned. As a general rule, therefore, the Bureau representative should not serve as the permanent

chairman of a committee. However, he should continue to lend the prestige of his office and his leadership to the water safety effort, and cooperate to the fullest extent with the activities of the committee.

The American Red Cross--Its Responsibilities in Extending Operation Westwide

The American Red Cross, because of its vast experience in the area of water safety, can make a significant contribution to the success of this project. It seems logical to expect the Red Cross to assume the following responsibilities:

1. Work closely with the Washington Office of the Bureau in the preparation of material to be sent to Bureau and Red Cross personnel in the locations selected.

Comment: This should be the immediate responsibility of members of the National Headquarters staff of the American Red Cross and Bureau personnel from the Washington Office; however, the services and facilities of field offices (Bureau) shall be utilized as appropriate in the development of materials for these purposes.

2. Prepare and send to the appropriate American Red Cross area offices a letter endorsing the project and recommending that a meeting be arranged with Bureau officials in the appropriate regional offices.

Comment: The appropriate Red Cross official is the Area Director of FASCWS or his representative. The Bureau official is the Regional Director or his representative.

3. Area Director prepare and send to Red Cross chapters in selected locations and all American Red Cross personnel serving these chapters, an endorsement of the program plus any additional information that was prepared in the Washington Office of the Bureau and/or Red Cross.

Comment: Letter should also contain information concerning any plans that might have been made as a result of the meeting involving the Regional Director (Bureau) and the Area Director of FASCWS.

4. Local American Red Cross chapter and FASCWS Field Representative servicing chapter meet with appropriate Bureau official representing selected location to discuss the project.

Comment: If the local chapter has an active and strong Water Safety Program and Water Safety Committee, the Bureau representative should be invited to become a member of the committee. The scope of the program should be expanded to include activities designed to implement the objectives of the project. Consideration should be given to adding new members to the Water Safety Committee to include representation from all interested groups.

In the event the American Red Cross chapter does not have a Water Safety Program but one exists in another community group, the same procedure is recommended. The chapter should be represented on this committee.

If the local chapter does not have an active Water Safety Program and none exists in the community, it is suggested that the chapter be represented on a community Water Safety Committee.

Suggested Locations for Extending Operation Westwide

*1. Lake Berryessa Area
Napa County, California

*2. Weber Basin Area
Ogden, Utah

*3. Rio Grande Project Area
El Paso, Texas

*4. Middle Rio Grande Project Area
Albuquerque, New Mexico

*5. Riverton Project Area
Riverton, Wyoming

6. Hungry Horse Reservoir Area
Columbia Falls and Kalispell, Montana

7. Minidoka Project Area
Burley and Rupert, Idaho

8. Fresno Field Division
Fresno, California

9. Shasta Field Division
Redding, California

10. Wellton-Mohawk Area
Arizona

11. Imperial Irrigation District
El Centro, California

12. Parker Dam
California

13. Davis Dam
Kingman, Arizona

14. Central Utah Projects Area
Provo, Utah

15. Flaming Gorge Reservoir Area
Dutch John, Utah

16. Grand Junction Projects Area
Grand Junction, Colorado

17. North Platte River Projects
Casper, Wyoming

18. South Platte River Projects
Loveland, Colorado

*Acute need.

Suggested Activities for Extending Operation Westwide

The decision as to how to reach the objectives of Operation Westwide will of necessity be a responsibility of the local committee, however, there are many approaches that could be employed. These include:

1. Classes in swimming and lifesaving
2. Demonstrations at swimming areas
3. Demonstrations and talks before civic and PTA groups, womens' groups
4. Demonstrations and talks in schools
5. Demonstrations and talks on TV
6. Demonstrations and talks to church groups
7. Posters
8. Motion pictures
9. Film slides
10. Water Safety essay contest in schools
11. Poster contest in schools
12. Newspaper stories
13. Newspaper editorials
14. Radio programs
15. Construction of "rescue stations"
16. Posting of signs at danger areas
17. Family night at school
18. Parents workshop
19. Placing of decals in boats
20. Demonstrations at public square or in store window
21. Displays featuring water safety equipment
22. Miss Water Safety contests
23. Proclamation--Water Safety Week or Month
24. Lifesaving Award Night
25. Lifesaving Contests

* * * * *

CANAL SAFETY SLOGAN

Water will soon be flowing down the canals and laterals in this area. With it will come the danger of drowning to those who disregard the eminent peril of high-velocity water in canals and structures. There were 84 reported drownings on canals and reservoirs in the 17 western states last year. Four occurred in our own Riverton area. One was a canal swimming accident and three deaths were from vehicles plunging into canals.

The majority of the fatalities are a result of swimming, boating, bathing, and fishing in disregard of posted warnings, fencing, and other protective measures. A few children have been drowned as a result

of carelessness on the part of parents and elders in permitting them to play unattended near hazardous locations.

The combined effort of the community is needed in a campaign aimed at acquainting the greatest possible number of people, residing near reservoirs and canals, with the dangers inherent in all such works. Our motto on canals should be: STAY ALIVE BY STAYING OUT.

--Riverton (Wyo.) RANGER April 8, 1963

VEHICLE SAFETY

Parker-Davis Project. A program was launched during the month for the purpose of stimulating employees' interest in obtaining seat belts for their privately owned vehicles. This program was initiated by the Safety Officer during March and will be continued until it has been presented to all project installations. The program consisted of presentations by Mr. Scotty Wallace of the Maricopa County Chapter of the National Safety Council and by Arizona Highway Patrolman Larry Corcoran. The presentation by Patrolman Corcoran consisted of an informative talk describing events leading up to, during, and following collisions, then showing color slides of highway accidents. The slides showed the results both when belts were and were not used. Mr. Wallace talked about the current undesirable highway accident trend, how effective the seat belt is in preventing more severe injuries, then showed color movies of a study to determine seat belt effectiveness, as conducted by the University of California in Los Angeles.

San Luis Unit. Work was initiated on a defense driving program in cooperation with the California Highway Patrol. The Bureau was represented at the Merced County Traffic Safety Council meeting. This organization works for the express purpose of promoting safe driving and creating safe road conditions.

Niobrara-Lower Platte Projects. Construction Engineer Robert L. Boyce reported on his experience of losing a wheel while driving a motor vehicle on a trip to Denver. He stated that he was saved a serious bodily injury as a result of having his seat belt fastened. This accident was the result of driving a vehicle which apparently had a broken axle for some considerable time and because of the nonslip differential the vehicle kept driving and no damage was apparent.

Minidoka Project. Mr. Donald Mutch spoke on "Driver Attitude." He stated, according to safety experts, 90 percent of all automobile accidents are caused by human factors. Leading psychologists say we drive the way we live. Nearly two-thirds of the accident repeaters had a record of antisocial behavior, impulsiveness, selfishness, and that only 9 percent of the low accident rate drivers displayed these undesirable traits. Therefore, the habits of good living are the mainsprings of good driving. Don't let personal matters blind your judgment, try to refrain from working out your problems on the road, keep your mind on your driving, follow the rules of safe driving, and remember that driving is a privilege.

EXCERPTS FROM SAFETY REQUIREMENTS FOR CONSTRUCTION BY CONTRACT

Section VII

PROTECTIVE CLOTHING AND EQUIPMENT

7-10. Electric arc welding and cutting, hydrogen welding, gas welding, cutting, brazing, and similar operations, where protection from injurious radiant energy is necessary, shall require goggles, face masks, shields, or helmets, suitable to the type of work, providing protection from all angles of direct exposure. Lenses for burning and welding goggles, welding hoods, face shields, and helmets shall meet the following specifications:

Operation	Shade No.
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 to 6 inches	4 or 5
Heavy cutting, 6 inches or over	5 or 6
Gas welding (light) up to 1/8 inch	4 or 5
Gas welding (medium) 1/8 to 1/2 inch	5 or 6
Gas welding (heavy) 1/2 inch and over	6 or 8
Shielded metal-arc welding, 1/16- to 5/32-inch electrodes	10
Inert-gas metal-arc welding (nonferrous) 1/16- to 5/32-inch electrodes	11
Inert-gas metal-arc welding (ferrous) 1/16- to 5/32-inch electrodes	12
Shielded metal-arc welding 3/16- to 1/4-inch electrodes	12
Shielded metal-arc welding 5/16- to 3/8-inch electrodes	14
Atomic hydrogen welding	10 to 14
Carbon-arc welding	14

Welding shields or other suitable devices shall be used to protect others from exposure from the arc. Welding helmets or hoods for use in the field shall be of the safety-helmet type.

RESPIRATORY PROTECTION

7-11. All dusts, mists, fumes, gases, or other atmospheric impurities in areas where persons are employed, and in such quantities as are determined to be harmful to health, shall be brought within safe limits by elimination, ventilation, or filtration. Where the above methods are impractical, approved-type respiratory protective devices shall be employed as indicated in the following table published in ASA Z2.1, Safety Code for Head, Eye, and Respiratory Protection.

Selection of Respiratory Protective Device

Hazard	Respirator
1. Oxygen Deficiency	Self-contained breathing apparatus Hose mask with blower
2. Gaseous Contaminant	
Immediately dangerous to life	Self-contained breathing apparatus Hose mask with blower Gas mask
Not immediately dangerous to life	Air-line respirator Hose mask without blower Chemical-cartridge respirator
3. Particulate Contaminant	Dust, mist, or fume respirator Air-line respirator Abrasive-blasting respirator
4. Combination Gaseous and Particulated Contaminant	
Immediately dangerous to life	Self-contained breathing apparatus Hose mask with blower Gas mask with special filter
Not immediately dangerous to life	Air-line respirator Hose mask without blower Chemical-cartridge respirator with special filter

7-12. In referring to the above table, U.S. Bureau of Mines approved hose masks with blower or air-line respirators as indicated shall be provided for continued exposure. For intermittent or casual exposures, appropriate type chemical-cartridge or filter-type respirators approved by the U.S. Bureau of Mines may be used.

7-13. Maximum allowable concentrations of nonradioactive atmospheric contaminants shall not be greater than the threshold limit values listed in Table 10.

7-14. Where required by the contracting officer's authorized representative, determination shall be made of the kind and amount of atmospheric impurities from samples taken at a point or points in the breathing zone of workers during normal operations. Determination of the concentration and hazard of the contaminant shall be made by a properly qualified analyst.

7-15. No employee shall be permitted in atmospheres containing less than 16 percent oxygen or other substances in harmful quantities unless provided with an approved-type self-contained breathing apparatus or a hose mask with blower.

7-16. Air-line respirators supplied with pure filtered air, free of objectionable odors and excessive moisture shall be worn by workmen performing dry sandblasting, spraying with harmful substances in close quarters, or welding in enclosed areas. Wet sandblasting may be performed with a protective head and face helmet equipped with safety lens or a screen mesh prohibiting the entry of sand particles.

7-17. Canister-type masks shall be used only where the toxic content of the air is known to be of a type which the mask will effectively remove.

(NOTE: CONTRACTORS SHALL BE REQUIRED TO ACQUIRE AND USE APPROVED-TYPE TESTING DEVICES NECESSARY TO DETERMINE THE PRESENCE OF HARMFUL GASES AND MATERIALS OR OXYGEN DEFICIENCY.)

SKIN PROTECTION

7-18. Where irritants of toxic substances come in contact with the skin or clothing, employees shall be adequately protected by one or more of the following:

a. Necessary protective clothing and equipment.

b. Approved-type protective ointment for exposed skin areas.

c. Necessary facilities, approved solvents, soap, and hot water for the removal of accumulated material and protective ointments.

d. Medically approved first-aid remedies for affected employees.

e. An emergency-type water fountain for flushing the eyes.

f. An emergency deluge-type shower.

7-19. Necessary precautions shall be taken by workmen to prevent cement and concrete from contacting their skin. Concrete workers shall be provided with protective cream or lotion to reduce dermatitis and skin irritation.

SAFETY BELTS AND NETS

7-20. Employees working from unguarded heights, on steep slopes, or otherwise subjected to falls hazardous to life and limb, shall be secured by safety belts and lines or protected by use of safety nets. Safety nets shall be used to protect employees erecting or maintaining bridges, or similar structures, or employed in shafts on steep slopes where it is not practical to "tie off." Safety nets shall be maintained abreast of the operations in order to provide effective protection for the employees exposed to falls.

7-21. Manila lines used for supporting personnel on safety belts shall be at least three-fourths inch in diameter and shall have a wire core.

7-22. All safety belts, safety nets, and lifelines shall be inspected daily and maintained in safe condition.

MISCELLANEOUS PROVISIONS

7-23. Appropriate footwear such as rubber boots, protective covers, safety shoes, etc., shall be worn by employees who are engaged in work requiring such protection. When boots are provided by the contractor, they shall be of the safety-toe type wherever practical.

7-24. Electricians and linemen performing electrical maintenance work on energized circuits shall be provided appropriate tools and protective equipment meeting the requirements of, and maintained in accordance with, the National Electrical Safety Code.

7-25. Heated facilities for changing, hanging, and drying clothing shall be provided for operations subjecting workers to prolonged wetting. Foul-weather clothing shall also be provided for this type of operation.

7-26. All X-ray work shall be performed by qualified technicians and necessary provisions made for protection of the operators and others in the vicinity of the work. Necessary barricades, warning signs, signals, etc., shall be provided as recommended in National Bureau of Standards Handbook 50, "X-ray Protection Design," U.S. Department of Commerce, National Bureau of Standards, May 1952.

7-27. Use and handling of radioactive isotopes shall be carried out as specified in National Bureau of Standards Handbook 42, "Safe Handling of Radioactive Isotopes," U. S. Department of Commerce, National Bureau of Standards, September 1949.

7-28. All persons in skiffs, small boats, or working over or near water where danger of drowning exists, shall wear appropriate-type U. S. Coast Guard-approved life preservers or work vests. This requirement may be waived where proper guardrails, safety nets, or safety belts and lines are provided. Ring buoys shall be provided for emergency rescue operations.

7-29. One or more lifesaving boats, or skiffs, shall be provided and manned during work hours at locations where men are working over or immediately adjacent to water. Lifesaving boats shall be properly maintained for emergency use and equipped with oars, boat hook, anchor, a ring buoy with 50 feet of line, two life preservers, and an emergency light.

7-30. Reflective hard hats, shoulder straps, jackets or similar reflective apparel shall be worn by signalmen, spotters, and others working in tunnels, on earthwork, or engaged in similar operations exposing them to critical traffic hazard during hours of darkness.

7-31. The contractor shall furnish employees with additional protective equipment as required in their assigned work and enforce the use of the equipment. All employees required to use protective equipment shall be properly instructed in the use of such equipment.

Section VIII

LIGHTING

8-1. Offices, shops, storage areas, corridors, passageways, and construction areas, shall be adequately lighted while work is in progress. (See Paragraph 8-6, Table of Minimum Illumination Intensities.)

8-2. Where the use of artificial light is required, it shall be maintained while workmen are entering or leaving the area.

8-3. Areas requiring the continuous use of artificial light shall be inspected daily and defective lamps replaced.

8-4. All lighting conductors and switches shall be installed in conformance with the National Electrical Safety Code and maintained in good condition.

8-5. Electrical lighting shall be the only means used for artificial illumination in areas where flammable liquids, vapors, fumes, dust, or gases are present. All electrical equipment and installations in these areas shall be of the explosionproof type, as listed and approved by the Underwriters Laboratories, Inc., or a similar authoritative organization. All electrical installations in these areas shall conform with the requirements of the National Electrical Code relating to hazardous locations. Further, portable lighting equipment such as hand lamps and flashlights shall be of an approved explosionproof type.

8-6. TABLE OF MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES 1/, 2/

Foot-candles	Area or operation
3	General construction area lighting.
5	Outdoors: Active construction areas, concrete placement, excavation, and waste areas, accessways, active storage areas, loading platforms, refueling and field maintenance areas.
5	Indoors: Warehouses, corridors, hallways, and exit ways.
5	Tunnels, Shafts, and General Underground Work Areas: (Exception: A minimum of 10 foot-candles is required at tunnel and shaft headings during drilling, mucking, and scaling.)
10	General construction plant and shops, i.e., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts, and active storerooms, barracks or living quarters, locker or dressing rooms, mess halls, and indoor toilets and workrooms.
20	Intermittent deskwork, kitchens, and machine or equipment repair shops.
30	First-aid stations, infirmaries, reading rooms, and offices.

1/Refer to ASA A11.1, Practice for Industrial Lighting, for recommended values of illumination for other occupancies and operations.

2/In addition to providing required or recommended illumination intensities, consideration should be given to the selection and placement of lighting equipment which will provide minimum glare, well-lighted vertical and oblique surfaces; eliminate harsh shadow; and provide adequate illumination to perform the work efficiently and safely.

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 62 THROUGH March 31, 19 61

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	243	40,824	120,528							0.0	0.0		0	0
Denver Office	1,442	242,256	709,768		1			7		1.4	1.4		10	39
Alaska District	36	6,048	16,653							0.0	0.0		0	0
REGION 1														
Boise Regional Office	168	25,971	77,533							0.0	0.0		0	0
Central Snake Projects	46	6,782	19,987	1	1		10	10	147.4	50.0	49.7	1,474	500	50
Chief Joseph Dam Project	37	6,129	21,073							0.0	0.0		0	0
Coeur d'Alene Project	15	2,723	7,187							0.0	--		0	--
Columbia Basin Project	854	143,472	432,152	2	2		8	8	13.9	4.6	11.5	56	18	50
Hungry Horse Project	50	8,665	26,516							0.0	0.0		0	0
Lower Columbia Development	37	5,510	16,847							0.0	--		0	--
Minidoka Project	155	21,510	66,991							0.0	27.4		0	96
Rogue Project	5	944	2,940							0.0	0.0		0	0
Snake River Development	39	6,128	20,126							0.0	--		0	--
The Dalles Project	35	5,590	16,331							0.0	0.0		0	0
Upper Columbia Development	41	6,746	21,172		2			10		94.4	--		472	--
Vale Project	21	4,321	10,508							0.0	0.0		0	0
Yakima Project	29	4,384	12,953							0.0	76.2		0	229
Totals and Averages	1,532	248,875	752,318	3	5		18	28	12.0	6.6	11.9	72	37	44
REGION 2														
Sacramento Regional Office	587	98,616	296,080	1	1		90	90	10.1	3.4	10.2	913	304	31
Folsom Field Division	62	10,637	31,156							0.0	0.0		0	0
Fresno Field Division	147	24,696	73,944							0.0	13.1		0	354
Shasta Field Division	112	18,816	56,056							0.0	0.0		0	0
Tracy Field Division	180	30,573	93,939							0.0	21.4		0	385
Distribution System Projects	2	336	6,482							0.0	0.0		0	0
El Dorado Projects	19	3,192	13,408							0.0	0.0		0	0
Klamath Project	34	5,772	16,872							0.0	0.0		0	0
Lahontan Basin Project	26	4,368	12,744							0.0	0.0		0	0
Red Bluff Office	112	18,816	56,688							0.0	0.0		0	0
San Luis Unit	341	57,288	156,592		2			19		12.8	0.0		121	0
Trinity River Division	204	34,272	106,854	1	2		1	19	29.2	18.7	0.0	29	178	0
Willows Field Office	9	1,584	4,208							0.0	--		0	--
Totals and Averages	1,835	308,966	925,022	2	5		91	128	6.5	5.4	6.7	294	138	81
REGION 3														
Boulder Regional Office	131	22,008	69,472							0.0	0.0		0	0
Boulder City Development	10	1,760	5,064							0.0	--		0	--
Boulder Canyon Project	143	29,744	80,474		1			3		12.4	12.4		37	111
Colorado River FW&LS	79	10,171	35,874	1	1		4	4	98.3	27.9	29.4	393	112	59
Parker-Davis Project	299	51,180	152,562		1			11		6.6	0.0		72	0
Phoenix Development	99	16,632	50,424		1			77		19.8	0.0		1,527	0
Southern California Development	15	1,003	4,993							0.0	--		0	--
Yuma Projects	159	23,427	67,143							0.0	0.0		0	0
Totals and Averages	935	155,925	466,006	1	4		4	95	6.4	8.6	4.8	26	204	26
REGION 4														
Salt Lake Regional Office	306	48,923	170,572							0.0	0.0		0	0
Emery County Project	38	7,066	18,182							0.0	0.0		0	0
Central Utah Projects	126	20,916	64,994							0.0	25.6		0	1,256
Curecanti Unit	26	16,744	41,764							0.0	0.0		0	0
Flaming Gorge Unit	151	22,672	63,546							0.0	0.0		0	0
Glen Canyon Unit	343	58,524	184,968							0.0	12.2		0	4,565
Navajo Unit			7,645							0.0	0.0		0	0
Transmission System Office	84	13,400	38,040							0.0	0.0		0	0
Durango Projects	77	12,757	38,687							0.0	21.7		0	174
Grand Junction Projects	87	13,800	46,888							0.0	14.4		0	489
Logan Development	15	2,248	6,728							0.0	0.0		0	0
Seedskadee Project	73	11,548	34,241							0.0	0.0		0	0
Upper Green River Project	19	3,040	9,240							0.0	0.0		0	0
Weber Basin Project	206	34,508	102,120							0.0	0.0		0	0
Totals and Averages	1,609	264,051	829,811							0.0	7.3		0	1,086
REGION 5														
Amarillo Regional Office	113	26,680	63,000							0.0	0.0		0	0
Albuquerque Development	35	5,624	15,949							0.0	0.0		0	0
Austin Development	76	16,763	38,269							0.0	0.0		0	0
Canadian River Project	144	23,296	66,838							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	53	8,960	27,880							0.0	0.0		0	0
Middle Rio Grande Project	246	38,746	115,553	2	2		6	6	51.6	17.3	7.2	155	52	14
Navajo Indian Irrigation Project	43	7,607	14,107		1			2		70.9	--		142	--
Norman Project	79	12,315	34,941							0.0	0.0		0	0
Oklahoma City Development	30	4,750	14,029							0.0	0.0		0	0
Rio Grande Project	273	44,974	131,448		1			7		7.6	28.3		53	106
San Angelo Project	43	7,069	29,754							0.0	39.7		0	1,966
San Juan-Chama Project	15	1,49[illegible]	1,49[illegible]							0.0	--		0	--
Wichita Project	55	13,986	31,256							0.0	59.8		0	60
Totals and Averages	1,205	212,266	584,517	2	4		6	15	9.4	6.8	14.0	28	26	240
REGION 6														
Billings Regional Office	234	37,433	112,999							0.0	0.0		0	0
Canyon Ferry Project	19	2,889	8,714	1	1		18	18	346.1	114.7	0.0	6,231	2,066	0
East Bench Project	70	10,918	31,649							0.0	0.0		0	0
Fort Peck Project	36	5,503	16,868	1	1		11	11	181.7	59.3	0.0	1,999	652	0
Missouri-Oahe Projects	262	41,920	131,116							0.0	16.3		0	1,969
Missouri-Souris Projects	125	19,307	62,017							0.0	14.9		0	89
Power System Operations	40	6,400	22,400							0.0	0.0		0	0
Riverton Project	32	4,845	14,030							0.0	0.0		0	0
Upper Missouri Projects	88	14,246	41,393							0.0	21.7		0	65
Yellowtail Project	114	18,522	50,655							0.0	0.0		0	0
Totals and Averages	1,020	161,983	491,837	2	2		29	29	12.3	4.1	8.3	179	59	523
REGION 7														
Denver Regional Office	168	29,568	84,496							0.0	0.0		0	0
Denver Development	28	4,760	14,488							0.0	0.0		0	0
Fryingpan-Arkansas Project	54	5,357	17,883		1			400		55.9	--		22,368	--
Kansas River Projects	328	55,104	162,536							0.0	6.1		0	49
Niobrara-Lower Platte Projects	304	48,640	147,840							0.0	0.0		0	0
North Platte River Projects	300	48,000	143,843	1	1		7	17	20.8	7.0	0.0	146	118	0
South Platte River Projects	169	28,392	86,024		1			9		11.6	11.6		105	162
Totals and Averages	1,351	219,821	657,108	1	3		7	426	4.5	4.6	3.1	32	648	34
CONSOLIDATED TOTALS	11,208	1,861,015	5,553,570	11	24	0	155	728	5.9	4.3	7.0	83	131	262
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR (Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH March 31, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	34	3,573	5,594							0.0	0.0		0	0
Columbia Basin Project	186	25,778	43,342							0.0	14.0		0	42
Coeur d'Alene Project	34	4,020	7,135							0.0	--		0	--
Minidoka Project			170							0.0	0.0		0	0
Rogue Project	16	2,365	6,659							0.0	--		0	--
Snake River Development			24							0.0	--		0	--
The Dalles Project	56	8,234	17,818							0.0	--		0	--
Vale Project	98	15,939	37,879							0.0	0.0		0	0
Yakima Project	25	2,869	6,816							0.0	7.8		0	23
Totals and Averages	449	62,778	125,437											
REGION 2														
Distribution System Projects			18,290		2			15		108.8	52.0		816	1,352
El Dorado Project	15	2,147	10,360							0.0	66.0		0	1,498
Fresno Field Division	37	3,779	8,711		2	1		6,021		229.6	--		691,145	--
Klamath Project	14	1,025	1,451							0.0	0.0		0	0
Red Bluff Office	142	23,856	83,016							0.0	0.0		0	0
San Luis Unit	347	57,734	67,969							0.0	--		0	--
Tracy Field Division	10	1,600	5,959							0.0	--		0	--
Trinity River Division	277	42,814	192,112	1	8		6,000	6,047	23.4	41.6	42.0	140,141	31,476	767
Totals and Averages	842	132,955	387,968	1	12	1	6,000	12,083	7.5	30.9	43.0	45,128	31,144	845
REGION 3														
Colorado River FW&LS			778							0.0	--		0	--
Parker-Davis Project	150	8,161	26,280							0.0	--		0	--
Yuma Projects	5	175	402							0.0	0.0		0	0
Totals and Averages	155	8,336	27,460							0.0	0.0		0	0
REGION 4														
Central Utah Projects	14	1,318	4,793							0.0	0.0		0	0
Curecanti Unit	226	50,285	133,028		2			72		15.0	0.0		541	0
Flaming Gorge Unit	488	77,839	201,269	4	5	2	12,064	12,114	51.4	24.8	13.2	154,987	60,188	293
Glen Canyon Unit	1,746	357,990	943,984	6	14		196	364	16.8	14.8	18.7	547	386	806
Navajo Unit			16,731							0.0	8.8		0	416
Florida Division	34	5,960	14,044							0.0	77.0		0	2,110
Grand Junction Projects	15	2,880	8,352							0.0	26.6		0	186
Seedskadee Project	180	41,739	73,528		1			90		13.6	31.4		1,224	197
Weber Basin Projects	272	40,413	100,075	1	3		10	22	24.7	30.0	64.3	247	220	96
Totals and Averages	2,975	578,370	1,495,804	11	25	2	12,270	12,662	19.0	16.7	21.3	21,215	8,465	657
REGION 5														
Amarillo Regional Office	2	400	3,262							0.0	--		0	--
Austin Development	3	402	733							0.0	--		0	--
Canadian River Project	360	92,456	249,714		1			21		4.0	0.0		84	0
Lower Rio Grande Rehabilitation	191	21,178	58,942							0.0	15.2		0	15
Norman Project	103	14,851	35,777							0.0	--		0	--
Oklahoma City Development		529	616							0.0	--		0	--
Rio Grande Project	19	1,482	6,929							0.0	--		0	--
San Angelo Project	12	2,910	48,311							0.0	30.7		0	301
Wichita Project	115	26,044	35,892							0.0	0.0		0	0
Totals and Averages	827	161,254	440,176		1			21		2.3	29.6		48	266
REGION 6														
East Bench Project	180	22,897	44,873	1	5		5	42	43.7	111.4	22.9	218	936	755
Missouri-Oahe Projects	71	8,004	21,981							0.0	19.6		0	20
Missouri-Souris Projects	77	8,190	18,079	1	1		5	5	122.1	55.3	136.1	611	277	10,207
Riverton Project	29	2,578	3,619							0.0	0.0		0	0
Upper Missouri Projects	12	1,603	2,655	1	1		5	5	623.8	376.6	--	3,119	1,883	--
Yellowtail Project	469	79,660	170,187	4	4	4	24,000	24,000	50.2	23.5	6.2	301,280	141,021	149
Totals and Averages	838	122,932	261,394	7	11	4	24,015	24,052	56.9	42.1	18.3	195,352	92,014	760
REGION 7														
Kansas River Projects	212	31,806	60,390							0.0	13.7		0	137
Niobrara-Lower Platte Projects	163	18,609	49,436							0.0	13.7		0	123
North Platte River Projects	10	608	1,985							0.0	0.0		0	0
South Platte River Projects	8	758	1,996							0.0	0.0		0	0
Totals and Averages	393	51,781	113,807							0.0	13.0		0	124
CONSOLIDATED TOTALS	6,479	1,118,406	2,852,046	19	49	7	42,285	48,818	17.0	17.2	25.3	37,808	17,117	575
TOTALS LAST YEAR (19 62)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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April 1963

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TABLES

Safety Performance Record

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Front Cover Photo: Flaming Gorge Unit. View showing men working with use of safety belts on penstock stoplog guides. A safety boat is provided below this work. Reclamation photo P591-421-4640.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

A SAFETY MESSAGE TO ALL SUPERVISORS

The coming months will be a critical period for all supervisors in the Department, one that will test to the utmost your skill in carrying out the very real responsibility of safeguarding our employees.

With stepped-up operating schedules, --employing thousands under the Public Works Acceleration Act and with the seasonal addition of hundreds of untrained student employees--we face challenging assignments in accident prevention.

You, the supervisors, must guide them to work safely. This responsibility toward our permanent employees is ever-present, but will be magnified manyfold in the months to come. Millions of visitors will place themselves under our protection during the next several months. There can be no relaxation of vigilance in our efforts to safeguard them.

In his SAFETY POLICY FOR THE FEDERAL SERVICE, President Kennedy said: "I charge the heads of Executive departments and agencies and, through them, their supervisory staffs to exert leadership in the establishment of vigorous accident prevention programs to achieve safe conditions of employment * * * Safety programs of the Federal Government should also assure the fullest protection to all who visit our Federal buildings, installations, parks, forests, and other public areas."

High qualities of leadership that led to your selection as supervisors will be put to severe tests. I want each of you to know that you have my full support in striving to get the job done---SAFELY.

D. Otis Beasley
Administrative Assistant Secretary
Department of the Interior

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
(January 1, 1963 - April 30, 1963)

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Alaska District	0.0	0	0.0	0.0
Region 4	1.8	23	0.4	1.8
Region 7	3.4	483	16.4	5.0
Region 5	5.0	19	0.9	3.7
Region 1	5.9	34	2.0	1.2
Region 6	6.1	64	3.9	4.0
Region 2	6.4	4,902	313.7	5.1
Region 3	6.7	210	14.1	2.3
Totals to Date	4.3	913	39.3	3.6
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	1.7	36	0
Region 7	7.7	19	0
Region 4	15.4	6,330	2
Region 3	27.7	970	0
Region 6	29.2	58,546	4
Region 2	35.2	23,874	1
Totals to Date	16.2	12,196	7
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to date: April 30, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	3	6,112
7	Explosions	1	6
12	Handling Material	12	504
13	Falling Objects	1	11
14	Falls of Persons	6	30
17	Flying Particles	1	4
18	Hand Tools	2	19
19	Machinery	2	97
20	Not otherwise classified	4	28
	Totals	32	6,811

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	1,759,609	0	0	0.0	0
Construction	1,931,899	10	6,070	5.2	3,142
Design	790,897	1	7	1.3	9
Investigation	953,407	7	621	7.3	651
O&M-Irrigation	883,682	6	31	6.8	35
O&M-Power	1,138,493	8	82	7.0	72
Totals	7,457,987	32	6,811	4.3	913

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000

FROM THE FIELD

Region 2. To give further impetus to the contractor maintaining a good safety program, Region 2 will award a Certificate of Merit to contractors with outstanding safety records. Basis of award will be dependent on the size of contract, low frequency and severity rates, and type of safety program in force.

Hungry Horse Project. The Regional Office has requested the project to conduct tests to determine the effect of powerplant load changes on river elevations downstream with regard to the resulting danger to fishermen and other sportsmen who might be in the vicinity. The tests will require clock time and tenths-of-foot rise at selected points along the river. It was agreed that the tests could be conducted by simulating loading conditions and discharging the water through the outlet tubes. Four points along the river will be observed and elevations recorded.

Niobrara-Lower Platte Projects--Farwell Unit. Construction Engineer K. L. Powers inquired of the group how to get participation by employees in toolbox meetings. From observation, he felt that in some sections the meeting was turning into a routine affair, with the supervisor calling the group together and talking to them on one specific topic. This is not the aim of the toolbox meeting; rather, they should provide an opportunity for discussion by all persons present of the problems encountered in their work.

Curecanti Unit. A new barrel form is being fabricated for the concrete placement operation in the diversion tunnel. This form and jumbo will have multiple electrical and air outlets, permanent catwalks and working platforms. Airhoses are to have safety chains on all connections.

WATER SAFETY

Yuma Projects. The American Red Cross and the Bureau of Reclamation sponsored a Water Safety Meeting held in Yuma, Arizona, on April 18. This meeting was held for the purpose of forming a water safety program for communities in southern California and southern Arizona. This very successful meeting indicates the sincere efforts of the participants to formulate an effective water safety program for 1963.

Sacramento Regional Office. The safety office participated in a water safety exhibit at the Valley Diver's Fair held at the California State Fairgrounds on March 3. The project was a joint venture with the American Red Cross Sacramento Chapter and the Sacramento Safety Council. The booth consisted of banners, pictures, and symbols on water safety furnished by the three organizations and manned by volunteer workers from the American Red Cross.

Handouts on water safety were given to persons visiting the fair. The handouts consisted of such booklets as "ABC's of Water Safety" furnished by the Bureau, "The Sea Horse Boating Family Guide," furnished by the Sacramento Safety Council, and several Red Cross pamphlets on water safety.

Kansas River Projects. During the past six months, Project Safety Engineer Ralph C. Meager has presented talks and film showings to public schools and community organizations in connection with "Operation Westwide." During the period over 6,800 people were in attendance at the water safety meetings conducted by Mr. Meager.

VEHICLE SAFETY

Region 2. Bureau of Reclamation drivers in Region 2 drove 7,626,206 miles during 1962 and experienced 4.3 accidents per 1,000,000 miles traveled. They entered the 1962 Sacramento Safety Council Commercial Vehicle Safety Contest and won third place in the Governmental Division. Even though third, the award is commendable and much credit is given to those drivers who experienced no accidents during their motor vehicle operation.

Yuma Projects. The Safety Officer displayed the certificate from the Arizona Highway Department authorizing the Yuma Office to inspect Government vehicles in conformance with Arizona Statute, Section 28-988. Although the statute does not require safety inspections be performed on Government vehicles, the Yuma Office is conforming to state laws that apply to privately owned vehicles.

Minidoka Project. Mr. Martin Anderson, Project Safety Engineer, advised the project that two outside rearview mirrors on pickups are required by State law. All pickups and trucks in the Division fleet will be checked and mirrors will be installed where needed. Safe driving practices were discussed with special emphasis on school children getting on and off their school buses. We must always stop when a bus is loading or unloading children and we are driving closely behind it.

Region 5. Region 5 reports that an inexpensive spray product, available from most art or printing stores in a pressurized can, has been successfully used to prevent glare from dashboards of motor vehicles. This is a colorless spray that will not affect the appearance of the basic color being covered other than to dull the high reflective surface.

NATIONAL SAFETY COUNCIL
CHICAGO

May 7, 1963

OFFICE OF THE PRESIDENT

Bureau of Reclamation
Denver, Colorado

Gentlemen:

The National Safety Council wishes to commend you and your organization for your outstanding contribution to accident prevention in 1962.

We consider your program achievement a noteworthy example of the fact that accident prevention really works. It demonstrates that concern by management, supervision, and staff, coupled with safety teamwork, really gets results.

To your management, supervision and employee personnel: our Compliments for your accomplishments in safety for 1962, and the hope that you will extend your fine record in the years to come.

Sincerely,

Howard Pyle

Howard Pyle

HP:jh

CAMPAIGN FOR THE PREVENTION OF FALLS

The Construction Section, National Safety Council, has recently announced a nationwide campaign for the prevention of falls on construction worksites.

Chief Engineer B. P. Bellport, in a letter dated April 24 to all regions of the Bureau, made the following remarks relative to supporting the national campaign:

> "I endorse this campaign and desire that all operating offices of the Bureau be apprised of the campaign and actively participate in it. This will require your endorsement of the campaign, together with a request addressed to each operating office, asking that they place special emphasis on preventing falls on construction sites from now through FY 64. To be effective, the program should include education of both Reclamation and contractor employees, as well as elimination of hazards contributing to falls of workmen: Many excellent safety films are available on this subject.
>
> "Last year falls accounted for 25 percent of all disabling injuries to Bureau personnel and resulted in 7,657 days' lost time. Further, falls were a major cause of disabling injuries and lost time among contractor personnel. Therefore, it is essential that the prevention of falls be considered an important element in our safety program. It is suggested that greater emphasis be placed upon the use of safety nets, safety belts, and climbing devices, together with the erection of scaffolding, walkways, and ladders meeting safety design requirements.
>
> "Your active support and participation in the campaign should materially reduce the number of disabling injuries resulting from falls; particularly those falls which could cause serious or fatal injury."

Note: Special materials include posters, signs, leaflets, a series of safety talks for foremen, and hard hat safety stickers. These are described in the Fall Special Emphasis Program Brochure 0013.593, available from the National Safety Council, 425 N. Michigan Avenue, Chicago 11, Illinois.

SAFETY AWARD TO H. E. STRADLEY

Regional Engineer Herbert E. Prater (left) congratulating Henry E. Stradley on his receiving the Award of Merit on April 8, 1963.

Mr. Stradley, until recently Regional Safety Engineer, Region 7, received the Department's Safety Council Award of Merit for his contribution over the years to effective safety administration. Mr. Stradley's primary assignment is Chief, Construction Branch, Design and Construction Division. During his service as safety engineer, April 1951 - September 1962, the Region's safety record made outstanding improvement. Accident frequency rates in the Region for 1950 were 10.2 for Government forces and 26.6 for contractor forces. In 1962 these rates had dropped to 1.9 and 14.8, respectively.

AGC SAFETY CERTIFICATION PROGRAM

Greater Safety in Construction is the aim of a new program now being launched by the AGC as a result of action taken by the recent New York convention. It is the AGC Safety Certification Program.

Under this program the AGC will confer annual safety recognition certificates upon contractor members who carry an approved safety program in the operations of their firms. Each member seeking certification for safety must qualify by submitting evidence that his firm has met the criteria established for this certificate.

The fundamental purpose of the program is to give contractors, their executives and their employees, a greater consciousness of the high importance of safety in construction; to strengthen their desire to make construction safer; to acquaint them more fully with practical methods of promoting safe practices, and to certify as safe contractors those who accomplish these aims.

The principal objectives of the Safety Certification Program are:

To establish positive evidence of effective self-policing of safety activities by the construction industry.

To set definite goals for reducing disabling injuries on the jobsite. For example, cutting the average rate of injuries from 30 to 20 per million man-hours as a starter.

To give proper recognition to AGC members achieving these goals.

To qualify for certification, the member must submit in writing the following:

1. Details of the company safety program.

2. The responsible company official or officials in charge of safety administration and jobsite safety.

3. Data substantiating a maximum frequency of 20 per million man-hours under the Disabling Injury Tabulation program.

4. A copy of jobsite safety rules.

5. A statement by insurance carriers or other recognized agency that at the time the member's operations were reviewed generally recognized safety practices and procedures as covered in the AGC "Basic Outline and Operation of an Accident Prevention Program" were being followed.

6. Evidence of safety training for job foremen and superintendents.

(a) Individual contractor-sponsored courses or sessions

(b) AGC chapter-sponsored courses or sessions

(c) University, extension, or correspondence courses

(d) Others (specify).

7. Evidence of safety meetings.

(a) For supervisors

(b) For workmen (toolbox or mass type).

8. Participation in Disabling Injury Tabulation program.

--AGC National Newsletter April 12, 1963

JOINT SAFETY TRAINING PROGRAM

A joint safety training program by the Associated General Contractors and three major federal contracting agencies is contemplated in exploratory discussions begun May 2 at the AGC Headquarters Building. AGC officials met with the safety directors of the Bureau of Yards and Docks, Bureau of Reclamation, and Corps of Engineers to consider feasibility of such a joint venture as part of the AGC's increasing emphasis on safety. Those taking part were: Arthur L. Schmuhl, Director, AGC Safety and Training Division; Earl W. Wheeler, Chief Safety Engineer, Bureau of Yards and Docks; Howard S. Latham, Chief Safety Engineer, Bureau of Reclamation; Robert L. Jenkins, Chief, Safety Branch, Corps of Engineers; and Donald A. Giampoli, Assistant Director, AGC Heavy Division.

--AGC National Newsletter May 3, 1963

CONSTRUCTION SAFETY RELEASE
(National Safety Council)

TRANSIT-MIX TRUCKS

The transit-mix (batch) truck is a vehicle that has expedited preparation of construction materials while en route to the jobsite. However, misuse or neglect in maintaining such equipment can lead to accidents and cancellation of efficiencies it is designed to yield.

Accidents may result in injuries to the operator and others, and may cause damage to the equipment and surrounding property.

Accidents and injuries related to operation of transit-mix vehicles can be minimized by selecting individuals who are best qualified to be drivers and training them in safety precautions specific to the work.

Driver candidates should be carefully selected to make sure their vision, coordination, and other physical and mental capacities qualify them to handle the equipment safely and efficiently.

Exposed pinch points often exist on transit-mix trucks, and personnel operating or working around such equipment should be instructed in avoiding such hazards. Many fingers and hands have been caught and injured in truck-mounted chutes that can swing and fold or telescope.

A truck chute should be locked in a secured position before a vehicle is put in motion. Several accidents have occurred because the chute was not locked into position and swung loose, injuring pedestrians and persons in other vehicles.

Brakes, horn, lights, windshields, door locks, and rearview mirrors should be maintained in good order.

Only the operator should be permitted on the equipment.

Design of the equipment requires rear-end unloading. Therefore, backing to unload is an operation that must be performed with caution. If the operator does not have a clear unobstructed view to the rear, a signalman should be used.

All signals should be given from the left-hand (driver's) side of the cab, and the signalman should always position himself in sight of the driver.

Provision and use of backup lights on trucks are recommended. Automatic backup alarms are additional safety features. Some states and some agencies make such devices mandatory.

It is good practice for a driver to sound a warning when any movement is to be made--two blasts of the horn when starting to move forward; three blasts when starting to move backward--and to continue such warning as circumstances warrant.

The equipment should be washed daily to abate wear of moving parts.

* * * * *

NATIONAL SAFETY COUNCIL AWARDS EARNED BY FOUR REGIONS

Region 7 has received a National Safety Council Award of Honor for an exemplary safety record for Government forces in 1962. The Region's frequency rate of 1.88 and severity rate of 21 in 1962 were 84 and 99 percent, respectively, better than the PAR rates. To earn the award Region 7 had to have a minimum improvement of 65 and 30 percent, respectively, in their rates. The PAR rates are the average frequency and severity rates for the period 1959 - 1961 for the regional unit combined with the entire Industry rates for the same 3 prior years as computed by NSC.

Region 5 also received a National Safety Council Award of Honor for an exemplary safety record in 1962. The Region's frequency rate of 5.95 and severity rate of 78 in 1962 were 67 and 94 percent, respectively, better than the computed PAR rates. To qualify for the award Region 5 had to show a minimum improvement of 58 and 30 percent, respectively, in their rates.

Region 1 has earned a National Safety Council Award of Merit for an improved safety record in 1962. The Region's frequency rate of 7.16 and severity rate of 283 were 53 and 76 percent, respectively, better than the PAR rates. For the award Region 1 had to have a minimum improvement of 37 and 10 percent, respectively, in their rates.

Region 6 also received a National Safety Council Award of Merit for an improved safety record in 1962. Region 6's frequency rate of 6.84 and severity rate of 318 were 46 and 73 percent, respectively, better than the computed PAR rates. To earn the award Region 6 had to show a minimum improvement of 46 and 10 percent, respectively, in their rates.

* * * * *

FINANCIAL ASPECTS OF SAFETY PROGRAMS MANAGEMENT A CHALLENGE TO FINANCIAL MANAGERS

Paper presented by Kasmir S. Kay, Associate Chief, Branch of Finance, Division of Budget and Finance, Department of the Interior, at the Safety Programs Management Training Course conducted jointly by the Department of the Interior and Federal Aviation Agency, in Washington, D.C., May 6-10, 1963.

We find today in the Federal Government an area--program--function, call it whatever you like, which is commanding more attention by Executive Management and also most recently by the Congress, than heretofore--it is commonly referred to as SAFETY. Since you gentlemen are all engaged in the safety function, terms such as Accident Prevention Programs, Safety First, Fire Prevention, Safety Officers are all commonplace. To many others not directly associated with the Safety Programs--these all seem to boil down to simply stated, safe working conditions. However, Safety in its broadest sense, as you all know, reaches into and affects many management and service functions. You can then rightfully ask: What has Financial Management to do with Safety? or, what has Safety to do with Financial Management?

Financial Management's Stake in Safety Programs

One of the basic reasons that financial management has a definite and big stake in Safety Programs is that with the passage in September 1960 of Public Law 86-767 (Federal Employees' Compensation Act Amendments) all accident costs, except Tort Claims Judgment Cases, are now chargeable and are paid from an Agency's appropriation. If accident costs rise, an agency has one of two alternatives; one, it must ask the Congress for more funds to finance these costs, or two, it must use funds originally justified for program purposes to defray these costs. Therefore, an Agency would do well to take steps to keep accident costs to a very minimum.

There also are other avenues in which financial management has a big stake in the overall scheme of Safety Programs Management. Under today's functional specialization concepts--each of the major financial management functions: finance, accounting, budgeting, internal audit and financial reporting has a definite and direct contribution to make. There are several avenues in the Safety Programs in which these financial management functions play a definite and integral part. But as yet, it seems, Financial Managers have not, I must say, fully and completely contributed to all financial aspects of Safety Programs Management. I firmly believe that a greater contribution can be made by Financial Managers in all financial management facets of the Safety Programs.

Budgeting for Safety Services

Let me first, however, briefly discuss several of the financial aspects of Safety Programs Management. The first and most basic one is obviously, where to budget for safety? That is, should it be a part of administrative management? or, should it follow the line of which appropriation is actually benefiting from these services? At the highest level of an organization, there is no doubt perhaps but that it should be a part of administrative management. But, as you go down the line--the question invariably arises: Should it be a part of the administration appropriation, or should it be included with the program? i.e., Operation and Maintenance, Construction, Management and Investigations, Management and Protection, etc. In applying the simple rule I just mentioned, the Safety Services function should, I believe, be budgeted for in Administrative Management at the highest level and then as you go down the line--it should be budgeted for under the respective benefiting appropriation. Is this concept applied uniformly and consistently throughout any Federal Executive Department or Agency? This is quite doubtful. I know of no Bureau of the Budget directive or issuance which specifically covers budgeting for Safety Services. When I momentarily speak of Safety Services, I am speaking only of budgeting for personal services, travel, supplies and equipment, etc., and not of any of the numerous functions carried out by Safety Programs Management. These I will take up and discuss individually.

Financial Aspects of Safety Programs Management

I have no doubt that it will come as a surprise to many of you, of the various financial aspects contained within the Safety Programs. There are several areas in the Safety Programs that have financial implications. Initially, I will state them and cover each briefly and separately.

1. Tort Claims--

   (a) Payment of Administrative Awards and compromise settlements by the Departments and Agencies;

   (b) Payment of Judgments by the Treasury Department; and,

   (c) Reports to the Congress.

2. Injury Compensation--

   (a) Election by employee to continue on rolls of an agency or be carried in an LWOP status and receive compensation from Bureau of Employees' Compensation, Department of Labor; and,

(b) Effect on employee's annual leave and sick leave and waiting period in nonpay status.

3. Reporting costs of benefits paid by the Bureau of Employees' Compensation to the Departments and Agencies under Public Law 86-767.

4. Budgeting by the Departments and Agencies for costs of benefits paid by the Bureau of Employees' Compensation under Public Law 86-767.

5. Repayment by the Departments and Agencies of costs of benefits paid by the Bureau of Employees' Compensation (from the Employees' Compensation Fund) under Public Law 86-767 and Accounting therefor.

6. Reporting--Fire losses, motor vehicle accidents, property damage accidents, work injuries (nondisabling, disabling, andd fatalities).

7. Internal Reviews and Reporting--

Reviews of Safety Programs and Reporting thereon by Agency's Internal Audit Staffs.

8. Third Party Damage Recoveries.

These essentially are the major and principal areas of Safety Programs Management which have direct financial aspects. There also are other minor areas which I shall discuss.

Item 1--Payment of Administrative Awards, Compromises and Judgments

The Departments and Agencies are authorized by law--The "Federal Tort Claims Act," as amended, 28 U.S.C. 2672--to consider, adjust, administratively determine and settle tort claims for money only when the total amount of the claim in each case does not exceed $2,500. By law--28 U.S.C. 2677--the Attorney General, with the approval of the court, may compromise or settle any tort claim. These administrative awards and compromise settlements are paid by the Departments and Agencies from their own appropriations. The General Accounting Office Manual, Title 7, Chapter 5400, prescribes the procedure and forms to be used for vouchering payments of tort claims against the U.S. I have no doubt but that most, if not all, Federal agencies have internal procedures covering processing and payment of these tort claims. The Comptroller General has ruled in decision B-137595, dated October 27, 1958, 38 CG 338, "The elimination of the requirement in 28 U.S.C. 2672 for a specific appropriation for the payment of tort claims permits an agency head to designate any

appropriation which does not contain a prohibition or limitation for the payment of tort claims provided that the appropriation is currently available for obligation at the time the claim is determined to be proper for payment." The third paragraph of 28 U.S.C. 2676, as amended, now reads "Any award made pursuant to this section, and any award, compromise, or settlement made by the Attorney General pursuant to Section 2677 of this title, shall be paid by the head of the Federal agency concerned out of appropriations available to such agency."

The third type of tort claim payments are those which are as a result of court action--commonly referred to as judgments. Because neither the payment nor the funds are chargeable to the individual Departments or Agencies, there seems to be less interest in these cases. The attitude seems to be 'well its not chargeable to the Agencies appropriation, why should one get too concerned.' Judgments, as you all know, are paid by Treasury from appropriations made available to them. After a judgment is rendered in a tort case, the Justice Department advises the GAO and requests that a Certificate of Settlement be issued. At the same time a copy of this letter is sent to the respective Department or Agency. The GAO reviews the judgment, and where the judgment is final (nonappeal cases) they issue a Certificate of Settlement and send it to Treasury for payment. 31 CFR 1.10 covers the procedures for payments of Judgments, and Subpart B of 31 CFR 3.20 covers the Federal Tort Claims Act.

Item 1--Reports to Congress

The law, 28 U.S.C. 2673, requires each Department or Agency head to submit a report annually to the Congress. This report shall show all tort claims paid stating the name of each claimant, the amount claimed, the amount awarded, and a brief description of the claim. From the language of the Act, you can see, that the report as required would cover only Administrative Awards and Compromise Settlements--as these are the only ones paid by the Agencies--it would not include Judgments. Since Agency General Counsel's or Solicitor's Offices most likely receive, review and process these cases that are included in this report, except for the payment aspect which is the responsibility of financial management, they generally perhaps prepare this report, or a Central Reporting Unit where such organizational element exists. However, the payments, information and data would come from the financial management end.

Item 2--Injury Compensation

The Federal Employees' Compensation Act of September 7, 1916, as amended, (5 U.S.C. 751) provides that the United States shall pay compensation as specified in the law for the disability or death of an employee resulting from personal injury sustained while in the performance of his duty, but no compensation shall be paid if the

injury or death is caused by willful misconduct of the employee. (The Bureau of Employees' Compensation, Department of Labor, has issued a pamphlet which contains the Regulations governing the administration of this act. This pamphlet also contains the regulations of the Appeals Board and the Act from 1916 as amended to 1949.)*

At the time the employee is injured and he is disabled for work, he can elect to continue on the rolls of the agency or be carried in an LWOP status and receive compensation from the Bureau of Employees' Compensation. The law also states, "If at the time the disability begins the employee has annual or sick leave to his credit he may use such leave unless it is exhausted, in which case his compensation for disability shall not begin, until the annual or sick leave has ceased." The law further states, "That with respect to the first three days of temporary disability the employee shall not be entitled to compensation, unless such disability exceeds twenty-one days in duration or is followed by permanent disability."

It is my understanding that most federal agencies in implementing this latest quote from the law require a 3-day waiting period in a nonpay status before an employee is entitled to injury compensation. I contend that the reference in the law to compensation means BEC compensation and not an employee's salary. The law, as I read it, states that the employee should not be in a compensation status, which to me means that he shall not be receiving BEC compensation for the first 3 days; it does not say he has to be in a nonpay salary status. However, you may find some agencies interpreting it one way and others another way. Some agencies may be requiring the employee to charge the first 3 days to sick leave or annual leave--if available--which I think is proper. I think an employee should have the option of charging this 3-day period to sick leave first if available or his annual leave, and if his disability exceeds 21 days and he receives compensation from BEC covering these 3 days an adjustment can be made at a later date. If the employee has no accrued sick or annual leave to his credit he has no problem actually because he then would have no alternative except to be in an LWOP status. I believe the interpretation of requiring a 3-day nonpay status is most unfair to the employee who is injured on the job and has sick or annual leave to cover it. I, for one, would like to see this matter submitted to the Department of Labor and if need be, to the Comptroller General for further interpretation and opinion.

There are other aspects of this law which affect an employee's leave--such as, (1) the day the injury occurs, this day is not counted as one of the 3 days, as the employee may be excused from duty for the purpose of obtaining treatment for an injury sustained in the performance of duty and he may be excused for the balance of the day, and the first

*BEC has recently issued another pamphlet in 1962 which contains the Federal Employees' Compensation Act as amended to September 13, 1960.

day of the 3-day waiting period does not commence until he is on LWOP for 3 successive days; (2) medical treatment as an outpatient; (3) medical treatment for recurrence of the disability, and others. In the latter cases the employee can do one of two things--take sick or annual leave and be paid by his agency or be carried in a LWOP status and, at the end of a pay period or month, submit for compensation by BEC the number of LWOP hours for which he is to be compensated. The BEC regulations cover all these different conditions.

Items 3, 4, and 5, Reporting, Budgeting, Repayment, and Accounting for Costs of Benefits Paid by BEC

Section 35 (b) of the Federal Employees' Compensation Act Amendments of 1960, Public Law 86-767 (74 Stat. 906), dated September 13, 1960, states that the Secretary of Labor, prior to August 15th of each year shall furnish each Executive Department and Agency, having employees who are or may be entitled to compensation benefits, a statement showing the total cost of benefits and other payments made from the Employees' Compensation Fund during the preceding fiscal year on account of the injury or death of employees or persons under the jurisdiction of such agency occurring after December 1, 1960. (This is now commonly referred to as the Charge Back Procedure.) Following the approval of this act, the Bureau of Employees' Compensation advised the Departments and Agencies of these provisions and furnished them proposed methods of billings for these costs. In response the agencies advised BEC of the manner they desired their costs to be reported--most of these billings followed the breakdown used by BEC in the Annual Work Injuries Report with some refinements in order to meet budgetary requirements, directly tie down these costs at the desired organizational level, and also for broader use in conjunction with the Safety Programs.

The way this provision of law actually works is simply like this. On or before the 15th of August, the Secretary of Labor transmits to the Agency heads, by letter, a statement showing the expenditures by BEC from the Employees' Compensation Fund for the preceding fiscal year. (For instance, as of the 15th of this August the statement of the benefits paid by BEC will cover fiscal year 1963.) This statement is in tabular form and it shows these costs by organization--the breakdown as submitted to BEC by the Agencies--for three items and a total. It shows costs for (1) Medical, (2) Non-fatal Compensation, and (3) Fatal Compensation. Also with this statement is transmitted a SF 1080, Voucher for Transfers Between Appropriations and/or Funds. (For fiscal year 1961, Interior's statement of costs was $70,113.00 and for fiscal year 1962 it was $427,211.00.) For FY 1961 these costs were for 7 months only--from December 1, 1960, through June 30, 1961, whereas the FY 1962 costs covered an entire fiscal year. These charges reflect actual expenditures made by BEC for injuries or death claims. The Agencies were required to include in their FY 1963 budget the amounts contained in the FY 1961 statements from BEC. These

amounts were paid when their FY 1963 appropriation became available. When the FY 1962 costs were received from BEC they were included in the Agencies FY 1964 budgets. When the FY 1964 funds become available the 1962 costs will be paid, and when the FY 1963 costs are received in August of 1963, they will be included in the Agencies' FY 1965 budgets. These costs as you can see are escalatory in that they represent continuing and new payments.

Repayment of Cost of Benefits Paid

The voucher received by the Agencies from BEC will be paid by the Agencies within 30 days after their funds are available. The Agencies are actually always 2 years behind in paying this bill. When the Agencies received their fiscal year 1963 appropriations, within 30 days thereafter, they paid the FY 1961 costs of benefits. The FY 1962 costs will be paid within 30 days after the Agencies receive their FY 1964 funds which will be available on or after July 1, 1963. (Within the Department of the Interior, this letter, statement and voucher is addressed to the Secretary and it comes to our Division for action. We advise the bureaus of the amounts of their respective costs. The voucher together with a copy of the letter to the bureaus showing individual bureau charges is sent to the operating Budget and Finance Section of the Chief Clerk's Office. They run this bill through the Working Capital Fund, bill the bureaus and pay BEC.) There is an important thing to remember here--and that is, the BEC bill is paid by the Agencies within 30 days after the funds are available. So at the time the 1963 funds became available, the 1961 bill was paid from 1963 funds. The payments are always 2 years behind the fiscal year being billed. In the meantime, the Agencies were receiving their 1962 costs which they included in the FY 1964 budget estimates.

Section 35 (b) of this law states, "Sums appropriated pursuant to such request shall, within thirty days after they become available, be deposited in the Treasury to the credit of the Employees' Compensation Fund." The payment by BEC and repayment to the Employees' Compensation Fund in essence makes this a Revolving Fund operation. Unfortunately, however, when this Act was passed, what I believe they had in mind and hoped for, was that all the continuing payments being made by BEC would have been absorbed by the various Agencies of the Federal Government. But the law was not enacted that way, so consequently, BEC is still budgeting to finance all payments (including those they will be reimbursed for) they make for injuries, etc., before the December 1, 1960, date. For FY 1962, their actual costs were $63,995 million, for FY 1963 they estimate $65,000 million and for FY 1964, they estimate $67,000 million. Their number of payments were as follows--

Actual FY 1963 --419,914
Estimated FY 1963--420,770
Estimated FY 1964--426,100

Budgeting for Costs of Benefits Paid

Section 35 (b) of the Federal Employees' Compensation Amendments Act of 1960, Public Law 86-767, further states, "Each agency shall include in its annual budget estimates for the next fiscal year a request for an appropriation in an amount equal to such costs * * *." "In the case of any corporation or other agency which is not dependent upon an annual appropriation, the deposit to the credit of the Employees' Compensation Fund required by this subsection shall be made by such agency from funds under its control." With respect to Government Corporations or to those submitting budgets under the Government Corporation Control Act the law states, "In addition to the contributions for the maintenance of the Employees' Compensation Fund required by this section, any mixed ownership corporation, * * * or any corporation or agency * * * which is required by law to submit an annual budget pursuant to or as provided by the Government Corporation Control Act, shall pay an additional amount for its fair share of the cost of administration of this act as determined by the Secretary of Labor. With respect to said agencies, the charges billed by the Secretary of Labor pursuant to this section shall include an additional amount for such costs, which shall be paid into the Treasury as miscellaneous receipt from the sources authorized, and in the manner otherwise provided in this section." It should be stated that agencies operating under the Government Corporation Control Act reimburse the Department of Labor directly for their costs of benefits paid by BEC. (Within Interior under Section 10(3)(b), Public Law 149, 81st Congress approved June 30, 1949 (63 Stat. 355), BEC has been presenting these statements directly to the Virgin Islands Corporation. Upon enactment of the 1960 Act, BEC asked Interior to continue to submit these statements directly as heretofore and also informed us that a 6 percent surcharge, or cost of administration would be added to their statement as a separate item. So, VICORP is billed separately--and then they reimburse the Employees' Compensation Fund directly. Their billing and repayment is not handled through the Office of the Secretary.)

In May 1961, the Bureau of the Budget in implementing Section 35 (b) of the law advised the Agencies, because of questions having arisen as to the appropriations from which agencies will make the reimbursement that, "In principle, these payments should be paid by the appropriation from which the salaries of the injured employees were paid, just as Government contributions to retirement, health benefits, and life insurance programs are handled. However, it will be satisfactory if the payments are made from an appropriate appropriation account at the level of the bureau or its equivalent. Each Department should make arrangements with the Department of Labor to have bills rendered on a basis consistent with this instruction." The letter also stated, "The philosophy behind the passage of the act was to encourage safety consciousness on the part of personnel in the various bureaus and agencies. If the individual bureaus are not called upon to justify

these payments as a part of their own appropriation structure, some of the basic value of the law is lost. Therefore the Bureau of the Budget does not contemplate the establishment of new appropriations for this purpose, nor the addition of these amounts to Central Departmental appropriations, nor do we contemplate new programs or activity categories for this purpose." (The net result of this letter, and based upon the provisions of Bureau of the Budget Circular A-11 Section 3(e) as revised by Section 6(L) in July 1962, "Basis for estimates relating to other objects of expenditure." "(h) The estimates will include amounts billed by the Employees' Compensation Fund for payments made by that fund during the past fiscal year" was in the Department of the Interior, that each bureau or office was requested to select an appropriation which shall include the amount needed to finance these payments. Since no new activity would be shown, the amount involved will be included in an existing activity within the appropriation selected. The bureaus and offices had to advise our Division as to the appropriation and activity in which these costs will be shown in the budget. The bureaus and offices were further requested to clearly identify these funds being budgeted, and that they be separately set out in the justification pertaining to the activity within which the benefit payments are included. This policy was effective for the fiscal year 1963 budget and it was also followed in the budgeting for these payments in fiscal year 1964.)

Accounting for Repayment of Costs of Benefits Paid

I rather doubt that there is a standard accounting practice or treatment amongst the Federal Agencies for these payments. Insofar as Government-owned Corporations or agencies operating on a revolving fund basis they undoubtedly accrue an amount monthly. (For instance, Interior's Alaska Railroad maintains an account called 'Provision for Employees' Compensation' under 'Other Liabilities' and this is so reflected on their monthly Statement of Assets and Liabilities.) They generally operate on a Revolving Fund basis and use their receipts as capital for payment of their bills. After they receive their BEC bill they make the payment thereof. As they accrue it monthly it reflects an accrued annual cost prorated monthly over the year,--so their monthly financial statements reflect this accrual.

As a general rule, I believe it can be stated that Agencies are obligating and charging these expenditures to the subactivity under which these funds were budgeted. Generally, these obligations would be made in July when the fiscal years' funds are available under which budgeted. The ultimate objective here is to have, where an Agency has Regions, Areas and Field Stations, these elements make repayment for their BEC costs to the Headquarters Office, or that these costs are charged to them.

Item 6--Reporting - Fire Loses, Accidents, Work Injuries, Etc.

To meet regulatory and management needs undoubtedly every Department or agency prepares certain internal and external reports relating to: (1) Structural Fire Experience, (2) Motor Vehicle Accidents, (3) General Property Damage Accidents, (4) Work Injuries and Deaths, (5) Tort Claims, etc. The frequency of these reports is, of course, dependent upon internal and external requirements. Without exception, each of these reports contains financial data, i.e., estimated damage from fires, costs of motor vehicles and other property damaged, tort claim payments, etc. The financial data in these reports generally indicates either that the payment has been or will be made from the Agencies' appropriation or an Agency will have charged back to it costs of benefits paid by BEC. Fire losses, as we all know, are not recovered by insurance as the Federal Government does not insure itself against fire losses. In all of these areas, except work injuries and deaths, if funds have not been budgeted directly for these costs then the program suffers because program funds are diverted to cover these costs.

Now, if these reports are necessary management tools and used, and I believe we should accept this as being so--the question is, who is in the best position to prepare this type of a report? The Safety Function? The Legal Function? A Central Reporting Unit, or whom? Furthermore, what part does and should financial management take in the preparation or review of these types of reports? Regardless of whom may have the responsibility given by management for preparation of these reports I believe that this is a major area in which financial management can be of great service and make a substantial contribution. In fact, because of the financial data contained in these reports, which is taken from the Agency's accounting records, these reports to be reliable should be prepared through the financial management reporting process. Undoubtedly, financial management staffs today supply much of the basic financial data to either the Safety Staff or others developing these reports. Who then, is in the best position to include this as a part of their financial reporting? I think Financial Managers. By preparing these reports and showing management the various areas where the costs are high and propose that action be taken to reduce the costs of accidents, fires, work injuries, etc., undoubtedly thousands of dollars, in every agency can be saved by bringing to management's attention these high cost loss areas where significant reductions in costs can be made. This would have the effect of (1) Agencies reducing their budget estimates; (2) Agencies not diverting program funds to these areas, or (3) Agencies not requesting additional or supplemental funds for or because of these costs. There are, I am sure, Agencies which prepare Accident Data reports and these reports are developed by financial management people and that such reports are used by management.

Today we find the Federal Government seeking and exploring all avenues to save money. For instance, recently by direction of the Bureau of the Budget, Federal Government employees are requested to travel air coach instead of first class except in emergencies. This, of course, will save funds and also Agencies will perhaps reduce travel estimates or will get more travel out-of-a-dollar. Paradoxically, one death loss can cost an Agency upwards of $100,000 each. So, I submit to all Financial Managers that here is a fertile area where thousands of dollars and perhaps millions more can be saved.

Item 7--Internal Reviews and Reporting

I would like to discuss another area of financial management which can make a contribution to the effectiveness of Safety Programs Management. It is in the area of Internal Audit. First, let me briefly define Internal Audit and tell you what it is. Internal Audit is a method of providing for independent reviews, examinations and appraisals within an Agency. It is an important element of management control, which functions by review, examination and appraisal and reporting to management. Dependent on how top management arranges its system of control, the scope of responsibility assigned to the Internal Auditor can be restricted to accounting and financial matters. Under other circumstances, the Internal Audit policy may extend to reviewing operating matters, in which case the Internal Auditor can supply management with information as to whether operations are being carried out effectively, efficiently, and as intended.

It is very important to remember that Internal Auditing is not a managing, supervising or directing function. Internal Auditing assists management by furnishing information, facts, and data which may become the basis of action. The Internal Auditor does not direct or control this action. The purpose of Internal Auditing is to assist management in attaining its objectives.

Internal Auditors obviously are not experts in the field of Safety and consequently cannot evaluate the Safety Programs as implemented. But working on the basis of a guide or program, the Internal Auditor can obtain and provide certain information, facts, and data on which those specialized in the Safety field can make an evaluation and take the necessary action to correct any deficiencies and to increase the effectiveness of the Safety Programs.

The Internal Audit work review of the Safety Programs can be included as a part of the Internal Auditors' regular audit of an organizational activity, i.e., field station, area, or regional office, etc., and his findings can be included in his overall report or if desired a separate report can be rendered. A very important aspect of Internal Audit of Safety Programs Management is in the reporting of the data, observations, and findings. The reporting or reports on reviews of the

Safety Programs, to be of value, should, I believe, present this information in such a manner that they can be of definite use and value to the Safety Administrator or Safety Officer who is responsible for the action on the report. Unless these reports are of value and will be used constructively, very little, if anything, will be gained from these reviews and internal audits.

Item 8--Third Party Damage Recoveries

As previously stated, one of the major amendments made to the Federal Employees' Compensation Act in 1960 was the provision designed to further the promotion of safety in all Federal Agencies by requiring all Federal Agencies to include in their annual budget estimates a request for funds to repay the Employees' Compensation Fund for costs of benefits paid during the preceding fiscal year on account of the injury or death of employees of each agency.

The addition of this provision brings clearly into focus an area of vital concern to all Agencies, and that is the matter of third party damage recoveries. Heretofore, this has been of only incidental concern to most agencies. But now it becomes of the utmost importance for each Agency to give its full attention to this matter since the amounts recovered in third party cases will reduce the amount of compensation chargeable against each agency and directly reduce the amount of the Agency's budget request for the following year.

Third party cases are cases in which a party other than the United States may be liable to pay damages for the injury or death of a Federal Employee. Under Sections 26 and 27 of the Federal Employees' Compensation Act (5 U.S.C. 776 and 777) the Government must be reimbursed for all medical and disability compensation payments disbursed on behalf of an injured employee if he recovers damages upon a third party claim. The Office of the Solicitor, Department of Labor, is responsible for the supervision of third party claims and has the authority to request that an employee prosecute a third party claim in his own name, as well as the authority to supervise third party cases which are handled by private attorneys. As a matter of information in fiscal year 1961 the gross sum of $3,305,198 was recovered by way of third party recoveries. This means that Agencies had charged back to them less this amount and which they did not have to include in their budget requests for the following year.

Other Areas

I have brought out and discussed, what I consider, the major areas of Safety Programs Management which have financial management aspects. Now I would like to discuss briefly some other areas in which financial management has an interest and does or I believe should participate.

The Comptroller General has ruled (B-147263 dated December 6, 1961), that reimbursement may be made of fees paid to a private physician for desensitization treatment against bee and wasp stings. Agencies are authorized to make payments covering the reimbursement of fees paid for immunization and similar procedures to prevent occupational diseases and illnesses which may arise in the course of employment or which affect the employment by significant loss of work time. The basis of such payment is that treatment must be primarily for the benefit of the Government rather than for the benefit of the employees. However, where such medical treatment can be obtained without charge to the appropriation, such facilities should be used. The Comptroller General has ruled in other decisions (15 CG 20, 22 CG 32, 30 CG 387, 32 CG 52, 33 CG 231) that when medical attention is necessary for the employee, by reason of the conditions of employment, they may be considered as a regulatory measure primarily for the benefit of the Government rather than the employee, in which event the expense thereof properly may be paid from an Agency's appropriated funds.

Some Federal Agencies have no doubt established certain policies implementing these and other Comptroller General decisions relating to preventative medical treatment as well as physical examinations which are properly chargeable to an Agency's appropriation. Other areas in which the financial management activity is directly affected is in the (1) payment for seat belts, (2) procurement of funds and payment for motor vehicles having certain safety features installed such as seat belts or roll bars, certain safety equipment on enforcement vehicles or ambulances, and (3) budgeting and financing for accident preventative maintenance. These are but some of the other auxiliary areas in which financial management also participate.

There is another important point I would like to make here and that is in the application of 14 Comp. Decision 310 (Decisions of the Comptroller of the Treasury), when the damage from which the claim arises is repairable, the person or firm causing the damage, or his insurance carrier, can be requested to issue the check for payment to the establishment making the repairs rather than to the Agency. This works to the advantage of the Agency concerned because if the Agency paid for the repairs out of their appropriations, and then seeks to reimburse the appropriation used, by moneys which may afterwards be collected from the persons causing the damage, these latter moneys would, under the law, be a miscellaneous receipt and would have to be deposited in the Treasury to such credit. (Section 3617 Revised Statutes, 31 U.S.C. 484.)

As a general rule, it can be stated that, where there is no statutory provision exempting such funds, nor any provision permitting the reimbursement of an appropriation, the Comptroller General has held that the proceeds of any insurance or any amount equal to the cost of repairs to any property so insured must be covered into the Treasury

as miscellaneous receipts, except, "where satisfactory repairs are made to Government property by those injuring it. I see no reason why or how any question of appropriation is involved." The Comptroller General has also ruled that appropriations of one Agency are not available to pay damages to another, 25 Comptroller General 49 and B-141693 dated October 13, 1961. In another decision B-146032 dated September 20, 1961, the Comptroller General ruled that where a requisitioned GSA motor vehicle is damaged by an employee of such Agency, "The cost of repairs to a damaged vehicle is dependent upon whether or not negligence of its employees is involved, such determination is essential. In the absence of a determination by the requisitioning Agency that the employee involved was not negligent, the GSA is entitled to reimbursement."

Financial Management people also enter the picture in the establishment of accounts receivable and removal from accounts receivable claims by the United States which arise out of damage to or loss of Government property due to tortious acts, including the negligent operation of privately owned vehicles and trespass over Government lands, buildings, or projects. Chapter 6500, Title 4, of the General Accounting Office Manual covers "Damage to or Loss of Government Property Due to Tortious Acts - Debt Procedures."

There is another very important area in which, while financial management people are not perhaps directly concerned, I believe it is an area in which Financial Management should take a more active interest. This is in assisting in every way possible to make certain that their Agency's injured employees receive as soon as possible their first payments of compensation from BEC. The assistance to be given is to make certain that the required BEC compensation forms are accurately and completely and promptly filed with BEC. (Recent studies made indicate that the average number of calendar days that elapse between the date an employee's salary stops until he receives his first BEC compensation check is upwards to 80 days. That's nearly 3 months. Further, in breaking down the 80 days, it takes on an average of 55 of the 80 days in preparing, forwarding and mail delivery of the Form CA-4, Claim for Compensation on Account of Injury. In contrast to this, BEC on an average, adjudicates the CA-4's within 25 calendar days.) In order to alleviate undue hardships to an Agency's injured employees, I feel that this should be an area of concern to Financial Managers. It is inconceivable that an employee should have to wait any longer than 2 to 3 weeks to receive his first compensation payment. I firmly believe that it is a responsibility of Financial Managers to ensure that an Agency's employee receives his BEC compensation just like it is to make certain he receives his salary from his Agency.

Summary and Conclusion

In this presentation, I have brought out the various financial aspects of Safety Programs Management. I have indicated the several avenues in which each of the major financial management functions has a direct and definite responsibility and contribution to make. Through some of these functions very definite savings in actual dollars are and can be made. In many of these areas Financial Managers are undoubtedly making a contribution. But, I also firmly believe that even greater savings can be effected through greater participation in these areas by Financial Managers. Financial Managers can, I believe, take a more active part in (1) development and preparation of the various reports which depict dollar losses due to accidents and fires, as well as tort claims, (2) render for management, data and information on Safety Programs Management through Internal Audits and Reviews, (3) reduce the amount of charge back to an Agency through third party damage recoveries and produce additional income to the Government in tort cases, (4) establish within the Agency's accounting system procedures whereby fire losses, accident losses, property damage losses, would be accounted for separately, rather than charging these items so their identity is literally lost, in order for those that are responsible for taking corrective action can have reliable and valid accounting data to act upon, (5) provide for the BEC costs to be borne by the organizational units and activities from which the employee's salary is paid and that these costs are actually charged to these units, and (6) indicate to management where these high cost losses are and require corrective or constructive action, and reduce these losses, which would reduce in the long run higher budget estimates or the use of program funds to defray these loss costs.

During the past several years in which I have served as the Financial Policy Safety Advisor to the Department's Safety Management Programs, I have become more acutely aware of the responsibilities that financial management people have in the Safety Programs. During this period, I have found that in some areas we in Financial Management have been making a substantial contribution, but I also find that there are many other areas in which Financial Managers, at all levels within an Agency, can make greater and more effective contributions--in the budgeting, finance, accounting, audit and reporting aspects of Safety Programs Management. I therefore submit, to all Federal Financial Managers, to take a broad look at all the Safety Programs Management with the many ramifications and facets in which financial management has a definite stake, and assist management to discharge its financial management responsibilities in the most effective and efficient manner.

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH April 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST (ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	245	43,120	163,648							0.0	0.0		0	0
Denver Office	1,440	253,440	963,208		1			7		1.0	1.1		7	30
Alaska District	37	6,185	22,112							0.0	0.0		0	0
REGION 1														
Boise Regional Office	169	26,914	104,446							0.0	0.0		0	0
Central Snake Projects	46	6,822	26,809		1			10		37.3	34.7		373	35
Chief Joseph Dam Project	37	6,072	27,145							0.0	0.0			0
Coeur d'Alene Project	18	3,186	10,373							0.0	--		0	--
Columbia Basin Project	857	150,832	582,984	1	2		7	10	6.6	3.4	8.6	46	17	38
Hungry Horse Project	50	8,665	35,181							0.0	28.0		0	392
Lower Columbia Development	35	5,648	22,495							0.0	--		0	--
Minidoka Project	154	23,210	90,201							0.0	20.3		0	71
Rogue Project	5	915	3,855							0.0	0.0		0	0
Snake River Development	40	6,288	26,414							0.0	--		0	--
The Dalles Project	36	5,752	22,083							0.0	0.0		0	0
Upper Columbia Development	35	5,805	26,980		2			10		74.1	--		371	--
Vale Project	21	3,145	13,653							0.0	0.0		0	0
Yakima Project	29	4,593	17,546	1	1		4	4	217.7	57.0	56.3	871	228	169
Totals and Averages	1,532	257,847	1,010,165	2	6		11	34	7.8	5.9	9.9	43	34	47
REGION 2														
Sacramento Regional Office	583	102,608	398,688		1			90		2.5	7.7		226	23
Folsom Field Division	61	10,954	42,110							0.0	0.0		0	0
Fresno Field Division	147	25,872	99,816							0.0	9.8		0	264
Shasta Field Division	112	19,817	75,873							0.0	12.9		0	1,235
Tracy Field Division	180	31,809	125,748							0.0	16.1		0	290
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution	10	1,760	15,168							0.0	0.0		0	0
Klamath Project	33	5,758	22,630							0.0	0.0		0	0
Lahontan Basin Project	26	4,576	17,320							0.0	0.0		0	0
Red Bluff Office	111	19,536	76,224	1	1	1	6,000	6,000	51.2	13.1	0.0	307,125	78,715	0
San Luis Unit	373	66,748	223,340	2	4		8	27	30.0	17.9	0.0	120	121	0
Trinity River Division	196	34,496	141,348		2			19		14.1	0.0		134	0
Willows Field Office	16	2,816	7,024							0.0	--		0	--
Totals and Averages	1,848	326,750	1,251,772	3	8	1	6,008	6,136	9.2	6.4	5.8	18,387	4,902	140
REGION 3														
Boulder Regional Office	120	21,120	90,592							0.0	0.0		0	0
Boulder City Development	10	1,760	6,824							0.0	--		0	--
Boulder Canyon Project	144	24,436	104,910		1			3		9.5	27.5		29	815
Colorado River FW and LS	80	13,393	49,267		1			4		20.3	22.5		81	45
Parker-Davis Project	200	23,824	176,386		1			11		5.7	5.4		62	22
Phoenix Development	102	17,952	68,376		1			107		14.6	27.0		1,565	27
Southern California Development	15	1,807	6,800							0.0	--		0	--
Yuma Projects	171	25,283	92,426							0.0	0.0		0	0
Totals and Averages	942	129,575	595,281		4			125		6.7	10.8		210	173
REGION 4														
Salt Lake Regional Office	311	49,549	220,121							0.0	0.0		0	0
Emery County Project	38	6,392	24,574							0.0	0.0		0	0
Central Utah Projects	129	21,898	86,892							0.0	19.3		0	946
Curecanti Unit	83	14,403	58,363							0.0	0.0		0	0
Flaming Gorge Unit	143	30,492	94,038							0.0	0.0		0	0
Glen Canyon Unit	340	60,840	245,808	1	1		14	14	16.4	4.1	9.2	230	57	1,490
Navajo Unit	2	958	8,603							0.0	0.0		0	0
Transmission System Office	86	15,136	53,176	1	1		12	12	66.1	18.8	0.0	793	226	0
Durango Projects	88	13,384	52,071							0.0	16.9		0	132
Grand Junction Projects	88	13,828	60,716							0.0	11.1		0	378
Logan Development	12	2,364	9,092							0.0	0.0		0	0
Seedskadee Project	72	12,352	46,593							0.0	0.0		0	0
Upper Green River Project	18	2,880	12,120							0.0	0.0		0	0
Weber Basin Project	31	7,488	17,608							0.0	0.0		0	
Totals and Averages	1,619	281,964	1,111,775	2	2		26	26	7.1	1.8	5.5	92	23	819
REGION 5														
Amarillo Regional Office	112	17,824	80,824							0.0	0.0		0	0
Albuquerque Development	36	5,701	21,647							0.0	0.0		0	0
Austin Development	72	10,946	49,215							0.0	0.0		0	0
Canadian River Project	141	35,309	102,147							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	52	9,212	37,192							0.0	0.0		0	0
Middle Rio Grande Project	235	38,290	151,843		2			6		13.0	16.8		39	134
Navajo Indian Irrigation Project	43	8,118	22,222					2		43.0	--		90	--
Norman Project	79	15,664	50,605							0.0	0.0		0	0
Oklahoma City Development	30	5,130	19,359							0.0	0.0		0	0
Rio Grande Project	278	49,254	180,702		1			7		5.5	20.9		29	78
San Angelo Project	39	3,632	33,386							0.0	30.7		0	1,521
San Juan-Chama Project	44	6,392	7,888							0.0	--			--
Wichita Project	58	10,821	42,077							0.0	44.6		0	45
Totals and Averages	1,209	216,593	801,110		4			15		3.0	12.9		19	180
REGION 6														
Billings Regional Office	237	38,135	151,120							0.0	0.0		0	0
Canyon Ferry Project	19	2,891	11,603		1			18		86.2	0.0		1,551	0
East Bench Project	71	11,942	43,591							0.0	0.0		0	0
Fort Peck Project	36	5,555	22,423		1			11		44.6	0.0		491	0
Missouri-Oahe Projects	274	43,840	174,956	1	1		7	2	22.8	3.7	12.2	160	40	1,483
Missouri-Souris Projects	123	20,040	82,057	1	1		6	6	49.9	12.2	11.5	299	73	69
Power System Operations	40	6,400	28,800							0.0	0.0		0	0
Riverton Project	33	5,369	19,399							0.0	0.0		0	0
Upper Missouri Projects	85	12,616	54,009							0.0	16.0		0	48
Yellowtail Project	122	17,882	68,537							0.0	0.0		0	0
Totals and Averages	1,040	164,660	656,497	2	4		13	42	12.1	6.1	6.2	79	64	285
REGION 7														
Denver Regional Office	171	30,096	114,592							0.0	0.0		0	0
Denver Development	28	4,888	19,376							0.0	0.0		0	0
Fryingpan-Arkansas Project	57	10,683	28,566		1			400		35.0	--		14,003	--
Kansas River Projects	329	57,904	220,440							0.0	4.6		0	37
Niobrara-Lower Platte Projects	280	46,400	194,240							0.0	0.0		0	0
North Platte River Projects	300	48,000	191,841		1			17		5.2	0.0		89	0
South Platte River Projects	169	27,040	113,064		1			9		8.8	8.7		80	122
Totals and Averages	1,344	225,011	882,119		3			426		3.4	2.3		483	26
CONSOLIDATED TOTALS	11,256	1,905,143	7,457,987	9	32	1	6,058	6,811	4.7	4.3	6.3	3,180	913	227
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFG-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 62 THROUGH April 30, 19 62

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	25	3,046	8,640							0.0	0.0		0	0
Columbia Basin Project	252	37,052	80,394							0.0	10.3		0	31
Coeur d'Alene Project	38	10,179	17,314							0.0	--		0	--
Minidoka Project	3	797	967							0.0	0.0		0	0
Rogue Project	13	1,778	8,437							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	57	9,715	27,533							0.0	--		0	--
Vale Project	84	10,956	48,832							0.0	0.0		0	0
Yakima Project	24	2,002	8,818							0.0	0.0		0	0
Totals and Averages	496	75,525	200,962							0.0	6.0		0	18
REGION 2														
Distribution System Projects			18,390		2			15		108.8	40.8		816	1,060
El Dorado Distribution	7	839	11,199							0.0	66.9		0	1,181
Fresno Field Division			8,711		2	1		6,021		229.6	--		691,195	--
Klamath Project			1,451							0.0	0.0		0	0
Red Bluff Office	76	12,688	95,704							0.0	0.0		0	0
San Luis Unit	453	74,029	141,998	3	3		37	37	40.5	21.1	0.0	500	261	0
Tracy Field Division	6	1,056	7,015							0.0	--		0	--
Trinity River Division	231	34,778	226,890	3	11		88	6,135	86.3	48.5	43.1	2,530	27,040	785
Totals and Averages	773	123,390	511,358	6	18	1	125	12,208	48.6	35.2	42.5	1,013	23,874	806
REGION 3														
Colorado River FW and LS	52	4,120	4,898							0.0	--		0	--
Parker-Davis Project	58	4,065	30,345	1	1		35	35	246.0	33.0	--	8,610	1,153	--
Yuma Projects	7	425	827							0.0	30.1		0	782
Totals and Averages	117	8,610	36,070	1	1		35	35	116.1	27.7	28.7	4,065	970	746
REGION 4														
Central Utah Projects	11	849	5,642							0.0	44.9		0	2,738
Curecanti Unit	249	45,280	178,308	2	4		13	85	44.2	22.4	0.0	287	477	0
Flaming Gorge Unit	522	81,076	282,345		5	2		12,114		17.7	14.0		42,905	275
Glen Canyon Unit	1,547	246,946	1,190,930	4	18		65	429	16.2	15.1	21.0	263	360	1,145
Navajo Unit	28	15,350	32,081							0.0	19.9		0	852
Florida Division	77	14,278	28,322							0.0	54.0		0	1,481
Grand Junction Projects	6	800	9,152							0.0	19.9		0	139
Seedskadee Project	310	72,502	146,030		1			90		6.8	16.8		616	84
Weber Basin Projects	272	39,643	139,718		3			22		21.5	58.5		157	332
Totals and Averages	3,022	516,724	2,012,528	6	31	2	78	12,740	11.6	15.4	21.9	151	6,330	852
REGION 5														
Amarillo Regional Office	4	300	3,562							0.0	--		0	--
Austin Development	2	490	1,223							0.0	--		0	--
Canadian River Project	348	69,245	318,959		1			21		3.1	0.0		66	0
Lower Rio Grande Rehabilitation	147	11,867	70,809							0.0	21.7		0	22
Norman Project	105	17,964	53,741							0.0	--		0	--
Oklahoma City Development	4	483	1,099							0.0	--		0	--
Rio Grande Project			6,929							0.0	--		0	--
San Angelo Project	22	2,579	50,889							0.0	24.5		0	240
Wichita Project	177	47,514	83,406							0.0	0.0		0	0
Totals and Averages	809	150,442	590,617		1			21		1.7	27.1		36	211
REGION 6														
East Bench Project	269	31,935	76,808		5			42		65.1	45.2		547	573
Missouri-Oahe Projects	95	10,371	32,352	1	1		7	7	96.4	30.9	27.5	675	216	82
Missouri-Souris Projects	134	17,987	36,066		1			5		27.7	106.1		139	7,954
Riverton Project	42	4,687	8,306							0.0	0.0		0	0
Upper Missouri Projects	17	2,612	5,267		1			3		189.9	0.0		570	0
Yellowtail Project	519	81,919	252,106		4	4		24,000		15.9	4.1		95,198	99
Totals and Averages	1,076	149,511	410,905	1	12	4	7	24,057	6.7	29.2	19.6	47	58,546	534
REGION 7														
Kansas River Projects	341	64,791	125,181							0.0	7.8		0	78
Niobrara-Lower Platte Projects	397	80,366	129,802	2	2		5	5	24.9	15.4	7.0	62	38	62
North Platte River Projects	22	1,504	3,489							0.0	0.0		0	0
South Platte River Projects	5	308	2,304							0.0	0.0		0	0
Totals and Averages	765	146,969	260,776	2	2		5	5	13.6	7.7	7.1	34	19	68
CONSOLIDATED TOTALS	7,058	1,171,171	4,023,216	16	65	7	250	49,066	13.7	16.2	24.4	213	12,196	625
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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JUL 11 1963
UNIVERSITY OF ILLINOIS

May 1963

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Front Cover Photo: Glen Canyon Unit, Transmission Line Division. Erecting transmission tower. Note "boom-stop" on crane and tag lines on tower section. Reclamation photo P-557-420-8285.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
January 1 - May 31, 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Alaska District	0.0	0	0.0	0.0
Region 4	1.4	18	0.2	1.3
Region 7	3.6	391	14.1	4.2
Region 1	4.7	27	1.3	1.4
Region 5	5.0	31	1.5	5.1
Region 2	5.0	3,891	194.5	6.1
Region 6	6.0	99	5.9	3.9
Region 3	7.9	274	21.6	4.6
Total to Date	3.9	742	28.9	3.9
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	2.7	34	0
Region 7	4.7	12	0
Region 4	14.4	4,928	2
Region 6	26.8	40,376	4
Region 2	32.0	18,870	1
Region 3	39.7	1,888	0
Total to Date	15.2	9,283	7
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to date:
May 31, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	3	6,143
7	Explosions	1	6
12	Handling Material	13	591
13	Falling Objects	1	11
14	Falls of Persons	7	36
15	Jumping to Places	1	1
17	Flying Particles	1	4
18	Hand Tools	3	35
19	Machinery	2	97
20	Not otherwise classified	5	68
	Totals	37	6,992

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	2,249,935	0	0	0.0	0
Construction	2,418,536	10	6,107	4.1	2,525
Design	985,240	1	7	1.0	7
Investigation	1,204,394	9	659	7.5	547
O&M-Irrigation	1,128,240	7	81	6.2	72
O&M-Power	1,432,723	10	138	7.0	96
Totals	9,419,068	37	6,992	3.9	742

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-62	Technician	Motor vehicle accident (fatal)	6,000

ACCIDENT REVIEW

MOTOR VEHICLE

Employer: Government
Activity: Operating motor vehicle on highway.
Accident Situation and Occurrence: A technician was on official travel in his personal car en route to a field office. He was traveling north on a two-lane paved highway about 6 miles from his destination when the accident occurred at 7:25 a.m. The employee apparently fell asleep at the wheel and lost control of his car. The vehicle skidded, rolled over, and struck the side of a semitrailer which was in the southbound traffic lane. The employee received fatal injuries.
Cause Determination: Loss of control of car apparently due to driver falling asleep at the wheel. This incident points up the need for continual training and education of employees using personally owned vehicles on official business.

FRONT-END LOADER

Employer: Contractor
Activity: Compacting backfill.
Accident Situation and Occurrence: Employee was assigned to compact backfill with a gas-powered hand compactor. However, to complete the job he decided later to use a front-end loader for this purpose. The machine overturned in the confined working area, and pinned the operator's legs under the equipment. The injury necessitated the amputation of his right leg.
Cause Determination: This accident was due to unauthorized use of equipment by an inexperienced operator.

BOAT TRAILER

Employer: Government
Activity: Hauling boat and trailer.
Accident Situation and Occurrence: Employee was towing a boat and trailer on a public highway. The boat trailer hitch broke loose from the Government vehicle and veered into the opposite lane of traffic. A private truck struck and damaged the boat and trailer. There were no injuries.
Cause Determination: A defective hitch and no safety chain on the boat trailer.

(Editor's Note: This is the second boat trailer accident in 1963. Both were caused by not having safety chains installed on the boat trailers. All trailer hitches should include a safety chain.)

TABLE SAW

Employer: Contractor
Activity: Ripping lumber at table saw.
Accident Situation and Occurrence: After ripping a piece of lumber on a table saw, the employee stumbled over some scrap lumber on the floor. He fell against idling saw blade before the guard dropped in place. Received laceration of left arm and lost 4 days from work.
Cause Determination: Inattention and failure to keep good housekeeping in floor area of table saw.

HANDLING STEEL

Employer: Contractor
Activity: Crane lifting bundle of tower steel.
Accident Situation and Occurrence: Employee had placed cables around a bundle of tower steel. As the crane started to lift, the end of the steel swung out and caught the employee's ankle against the railroad track. The workman received a fractured right ankle with an estimated 60 days of lost time.
Cause Determination: Failure to stand in the clear from the load being raised by the crane.

WATER SAFETY

"OPERATION WESTWIDE"

Paper presented by Harold Wersen, Regional Safety Engineer, Boise, Idaho, at the Regional Safety Engineers' Conference and Safety Workshop, Denver, Colorado - February 18-21, 1963

Simply stated it is the art of "Letting People do it Your Way." Your job and my job is to motivate and arouse enough enthusiasm among local citizens to actively do something about Recreational Boating and Water Safety in, on, and around Bureau-built canals, reservoirs, and other facilities in their own communities.

"Operation Westwide" was set up in 1957 when Commissioner Dexheimer met with General Gruenther, President, American Red Cross, and set up this prevention plan to cut down on the drownings that were occurring on Bureau installations.

As you may recall, we then received a letter from the Commissioner's Office requesting us to organize pilot groups of citizens in certain high hazard areas. Yakima, the oldest established project, was designated in Region 1. The first meeting of interested local people was held in August 1957. This Water Safety Council, during the past 5 years, has had a continuous program of educating the public in that area. The previous 5 years before it was organized there was an average of 11 drownings a year. This past 5 years drownings have averaged 1.8 per year. So, we feel that this organization has been effective in building awareness among the public. They now have a plan for a week-long Recreational Boating and Water Safety show to be held at the Chinook Hotel pool, Yakima. They are selling display spots for boats and all types of water equipment. The Red Cross and Coast Guard will put on demonstrations for survival, scuba diving, boat handling, etc. Admission is free to the public. We now have eight such organizations in the region.

During the week of February 4, I helped organize and attended the initial meeting of a new group in the Hungry Horse, Montana area. This was a new experience for me and I will give you a few of the details. We could not get any help from the Red Cross in this area and there was a defunct safety council. Local Bureau employees arranged interviews with some community leaders. When I arrived I discussed the program with various representatives of a rescue organization. They have a great deal of skiing in the winter, hunting and other water activities including scuba diving, and between lost hunters, skiing fractures, and drownings, there is need for such an organization. This organization is made up of representatives from seven separate community groups.

Our job was to sell a preventive accident program. They accepted this safety program and the Safety Coordinator of all of these groups is a member of the Board of Directors of the consolidated unit which is centered in the Sheriff's Office in Kalispell. This organization, through the community units, covered the entire Flathead Valley. My office has the name and address of the safety representative in each of these units and we have ordered a subscription to the NSC Public Safety Newsletter for them. All of these organizations receive publications and information out of my office. This is an item I have in my budget and it is the tangible aid that Reclamation gives them to carry on the program. In some spots our project office gets out the meeting notices and furnishes the clerical help at Government expense.

Briefly, the outline of setting up these community councils is:

1. Approximately a month prior to calling the initial meeting, we interview leaders in the community and discuss the problems of Recreational Safety that they are going to be faced with. We ask them their opinion on what they think should be done. They tell us.

2. We ask them if they would be willing to give a 3-minute talk on it as a member of a panel. They always accept.

3. Then we contact the Mayor or some well-known figure to act as moderator of the panel.

4. We tell them of a tentative organizational meeting date.

5. We then contact newspapers, radio, etc., for publicizing the plan.

6. Then we make up an agenda for the meeting and send it to the news agencies. The pattern followed is that the Red Cross representative, or boat club, or any other group we work through furnishes the temporary chairman for this meeting.

7. As the Bureau representative, I usually outline the problem and regulations that are going to be needed to help make the area safe for all. Then we explain to what extent the Bureau will help the council in the way of information, counseling, etc.

8. The panel presentation usually generates considerable discussion which must be held in control by the temporary chairman. He then calls for election of a temporary chairman and secretary and sets a meeting in about 2 weeks for formal presentation of constitution and bylaws and election of officers and committee chairmanships.

My subject includes problems encountered. I will list a few and possibly it will generate some further questions during our discussion.

If we come into an area and find the Red Cross representative is not interested, or is even resistant, we forget about them. On occasion we have used sportsman associations, boat clubs, Lions, P. T. A., and in one instance a Grange and 4-H Club helped make our entry into the community.

It is not a good idea to have a county official such as the Sheriff spearhead the initial organizing. A County Commissioner or Judge works better.

We have on one occasion collaborated with the U. S. Coast Guard where there were many boat owners who wanted a Coast Guard Auxiliary unit. They take a 30-hour course and then are authorized to fly the Coast Guard flag and make courtesy safety inspections.

When we have Bureau personnel in some of these communities, they are expected to attend and participate in these water safety council meetings. They do not take the lead or hold office. It is a good idea to get a report of their progress so that we know how they are getting along. Interest can lag very quickly in these volunteer organizations.

At this point, I would like to stress the importance of selling these organizations on contacting the Public Safety Department of the National Safety Council for information on pamphlets, films, and other material.

This department of the National Safety Council is only 3 years of age, but the manager, Ralph Kuhli, has brought it a long way. The Recreational Boating and Water Safety Section is made up of over 100 representatives of Federal and State Governments, manufacturers, National Recreational Association officials, and headed by Admiral Roland of the U. S. Coast Guard as chairman. This section is now in the same status as the Traffic, Industrial, Mining, and Farm sections. Many of these private companies will donate or make grants to the NSC for operations of this section. The Bureau of Reclamation could very well sponsor a specific Canal Safety film or collaborate with one of the many private concerns in building such a film. It definitely should have an animated character or characters selling the various phases of canal safety.

In closing, I hope I have generated a lot of questions that will be of benefit to all of us in the coming discussion.

The following bylaws are printed as an example or model that can be used in establishing similar water safety councils for "Operation Westwide."

CACHE COUNTY WATER SAFETY COUNCIL BYLAWS

SECTION 1 - AUTHORITY

1.01 - Authority
The council has been formed at the suggestion of the Department of the Interior, Bureau of Reclamation, with the active support of the American National Red Cross and other organizations and persons interested in the promotion of safe use of the water surfaces in the territory. Similar councils have been organized in other parts of the western states. This council does not have enforcement or punitive objectives or procedures. It is primarily a council seeking to educate or enlighten the general public with regard to proper and safe use of our waters and related recreational facilities, and its effectiveness is measured by the amount of public moral and legislative support it can engender as it cooperates with Federal, State, and local agencies which have a primary responsibility in this area or field of activity. This council is but an instrumentality or a legitimate expression of the will of a group of citizens who wish to secure for themselves and their posterity the extended and safe use of the water surfaces in the territory herein described.

SECTION 2 - NAME, TERRITORY AND OFFICE

2.01 - Name
Name of this council shall be known as the Cache County Water Safety Council.

2.02 - Territory
The territory assigned to this council is principally Cache County and adjacent areas, but may be altered as the need arises.

2.03 - Office
The headquarters and principal office of the council shall be in Logan, Cache County, Utah.

SECTION 3 - PURPOSE

3.01
The purpose of this council shall be to actively promote and support a program of public education in water safety and accident prevention on, in, or near the waters within the territory. The council

will not have, nor will they seek, any prohibitive or policing powers, but will, through a program of public education and related activities, aid and assist the duly authorized State and local law enforcement agencies in the accomplishment of their program of public water safety. The council shall do all in its power to fulfill its moral obligation to prevent water activity accidents resulting in loss of life, property, and human suffering.

SECTION 4 - MEMBERSHIP

4.01
Membership in the council shall be open to representatives of various organizations within the territory which have an interest in promoting the safe use of the waters in the territory. New members will be admitted upon recommendation of the executive board and approval of the council.

4.02 - Meetings
The council shall meet at least quarterly throughout the year for the purpose of holding elections; for the consideration of reports; and for the transaction of such other business as may properly come before the meeting. Place of meeting shall be established by the will of the council according to availability and suitability of such meeting places.

4.03 - Special Meetings
Special meetings of the council may be called at a time selected by the executive board, or upon written request of not less than one-third of the membership of the council.

4.04 - Notice of Meetings
Notice of council meetings shall be published in local newspaper, and/or by letter, or by personal or phone contact at least 10 days in advance of the quarterly meetings. The executive board to determine their own monthly meetings times as a matter of business at each meeting.

4.05 - Quorum
At any quarterly meeting or special meeting of the council, not less than 51 percent of the council membership shall constitute a quorum.

4.06 - Voting
At every meeting of the council membership, each member present in person shall be entitled to one, and only one vote. Voting by proxy shall not be permitted. Decisions on any question at a meeting of the council membership shall be by majority vote of members present and voting.

4.07 - Termination of Membership
Termination of membership shall be by written resignation of the individual member or by action of the executive board.

SECTION 5 - EXECUTIVE BOARD AND COMMITTEES

5.01
The business and affairs of the council shall be managed and controlled by the executive board consisting of the elected officers and the various committee chairmen.

5.02
Members of the executive board shall be elected annually at the first quarterly meeting of the new year and shall serve for a period of 1 year.

5.03 - Rotation
Any member of the executive board who shall have served in the same capacity for two consecutive full terms, shall be ineligible for re-election to that office for a period of 1 year immediately following the expiration of the second full term. The immediate past president shall automatically become an ex-officio member of the executive board.

5.04 - Vacancy
A vacancy in the executive board may be filled temporarily by appointment of the executive board. Such appointees to serve until the next annual election.

5.05 - Regular Meetings
Regular meetings of the executive board shall be held monthly according to a schedule determined by the board.

5.06 - Special Meetings
Special meetings of the executive board may be called by the President or upon written request of one-third of the members of the board.

5.07
Notice of meetings of the executive board shall be given in the most expeditious manner possible and in such sufficient time as to allow the members time to fit the meeting into their schedules. Place of meeting shall be established by the board according to availability and suitability of such meeting places.

5.08 - Quorum
Two-thirds of the membership of the board shall constitute a quorum.

5.09 - Committees
The executive board may appoint or provide for the appointment of such advisory and administrative committees from among the members of the council as it sees fit, and shall determine or provide for the determination of their duties and functions. These committees shall meet as often as necessary, to properly transact the duties and functions assigned by the executive board.

5.10 - Voting
Except as otherwise specifically prescribed by these bylaws, all decisions of the executive board or established committees shall be by majority vote of those members voting. Each member shall have one and only one vote, and no voting by proxy shall be permitted.

5.11 - Compensation or Dues
Members of the council serve as volunteers and receive neither compensation for their services nor will they be assessed fees or dues. However, the council may properly accept voluntary contributions from interested persons or organizations for the purpose of defraying expenses incident to the conduct of authorized council business. Said contributions, in kind or money, shall require the prior approval of the executive board for acceptance and/or expenditure. Council members on authorized assignment may be reimbursed to the extent of available funds as determined by the executive board.

SECTION 6 - OFFICERS

6.01 - Principal Officers
The principal officers of the council shall be a President, one or more Vice-Presidents, and a Secretary. Each of the principal officers shall be elected annually from the council membership at the first quarterly meeting of the new year. The committee chairmen shall also be elected from the council membership at this same meeting.

6.02 - President
The President shall preside at all meetings of the council membership and of the executive board. He shall also be a member ex-officio of all other committees. He shall be the principal officer of the council and shall perform such additional duties as shall be assigned to him from time to time by the executive board.

6.03 - Vice-President
At the request of the President, or in event of his absence or disability, the first Vice-President shall perform any or all duties of the President. The Vice-President shall also have such other powers and perform such duties as the executive board may from

time to time assign. Other Vice-Presidents shall perform similar duties in the event of absence or disability of the other principal officers.

6.04 - Secretary
The Secretary shall attend and keep the minutes of all meetings of the council membership and of the executive board. He shall also keep or provide for the keeping of the minutes of all meetings of committees. He shall issue notice of all meetings of the council membership and the executive board. He shall keep a list of the membership of the council or shall compile information with respect thereto. The Secretary shall also keep a current file of all laws and regulations governing local water areas and activities that come into the possession of the council, as well as all local news releases on the council activities or news items of particular interest to the council.

6.05 - Treasurer
At such time when the executive board approves the establishment of this office, the Treasurer shall in general perform all the duties incident to the office of Treasurer, subject to the control of the executive board. All funds or property received by or coming into the custody of the council belong to and can be expended only for the purposes authorized by the executive board in accordance with these bylaws.

6.06 - Vacancies
In the event of the death or resignation of any principal officer prior to the expiration of the annual term for which such principal officer was elected, the executive board shall fill such vacancy from among the membership of the council.

SECTION 7 - DISSOLUTION

7.01 - Dissolution
After written notice to and approval by the executive board, the council may be voluntarily dissolved by vote of the council membership at a meeting called expressly for such purpose. Upon dissolution of the council all the council funds and property, its books and records shall be disposed of by direction of the executive board.

SECTION 8 - RULES

8.01 - Rules
For the purpose of proper conduct of the business of the executive board, committees, and council meetings, Robert's Rules of Order,

Revised, shall be used as the authority. Exceptions to this authority must be previously authorized by the executive board.

SECTION 9 - AMENDMENTS

9.01 - Amendments
Amendments of these bylaws may be adopted at any meeting of the council membership at which a quorum is present, or such amendments may be adopted by a vote of two-thirds of the members of the executive board present at a meeting expressly called for that purpose and at which a quorum is present provided that either the council membership or executive board be given reasonably adequate notice of the terms of the amendments proposed.

"OPERATION WESTWIDE"

Wm. J. Durrant, Safety Engineer, Logan, Utah

Although I do not relish public speaking, I deem it a distinct honor to speak at this Safety Conference on the assigned subject, "Operation Westwide." With that honor, however, comes the responsibility to give you something from our experiences in this field in the Logan, Utah area that might be of value to you in implementing this program in your particular area. My purpose today then is to report our progress on the assignment given our office at last year's Safety Conference.

In making this report I would like to (1) review briefly the Operation Westwide program, (2) give a resume of our activities in initiating this program, and (3) preview some of the future plans and activities of our Water Safety Council.

In the 61 years since the Reclamation Act of 1902 was passed, the Bureau has reclaimed about 8-1/2 million acres of land. To do this required construction of scores of dams and reservoirs and thousands of miles of canals and laterals. Some 200 Bureau-built facilities provide 1-1/2 million acres of water surface area which last year attracted some 27 million visitations. Thus, the Bureau has contributed greatly to the water recreation potential of this country, and, in the process, to increased exposure to drowning hazards.

The American people have been and are extremely lax in water safety. Each year we record about 7,000 accidental deaths by drowning, which places it in fourth place among accidental deaths in this country. Thus drowning is quite clearly a major part of our total accident prevention program.

Although it is the policy of the Bureau to turn the operation of projects over to the water users, and with it certain safety responsibilities, they recognize a moral obligation to help others alleviate a problem which the Bureau has aggravated. Since the Bureau has little or no authority for safety enforcement on its constructed projects, the approach to the problem seemed to be "built-in" safety features in our facilities wherever possible and join with others in a vigorous safety and accident prevention program. In 1957 the Commissioner of Reclamation and the President of the American Red Cross met to discuss the problem of public awareness to water safety in the area of operation of the Bureau of Reclamation. "Operation Westwide," a water safety education program,

was initiated at this meeting. "Operation Westwide" is a plan whereby the Red Cross in conjunction with the Bureau of Reclamation, actively promote and support a program of public education in water safety and accident prevention. The program is primarily one of public education of and respect for the dangers that may be encountered on, in, or near the water areas. More specifically, the plan of "Operation Westwide" is to organize water safety councils with various committees in communities where definite water safety problems exist. These committees encourage better community swimming facilities and an accelerated swimming instruction program; sponsor small craft training sessions to educate boat owners in how to properly and safely operate their crafts; they may sponsor water safety poster and slogan contests; inform the general public on water safety through the media of newspaper, radio, and TV; and propose various legislation to regulate the safe use of water recreation areas.

Membership in the water safety council and committees consist of representatives from various civic groups, sportsman clubs, boating clubs, law enforcement officials, State and Federal agencies, and others. Membership does not cost anyone any money--just time, talents, and work.

In organizing the Cache County Water Safety Council we followed rather closely the procedure that had been followed in other areas. Last June we received a letter from the Regional Safety Officer, containing helpful information, and directing us officially to proceed with the program. A search of our files produced the following supplementary material: (1) A copy of Mr. D. W. Applegate's speech "Operation Westwide" before the National Water Safety Congress at Omaha, Nebraska, on June 21-22, 1960; (2) Talk by Harold Dean, Safety Engineer, Weber Basin Projects, before the 31st Annual Safety Convention of the Utah State Industrial Safety Council, Salt Lake City, September 15, 1956, entitled "Water Safety," and (3) Leaflet--"Water Safety, A Community Responsibility."

The next step was to contact the local representative of the American Red Cross, which was done during the month of August. I found him to be very cooperative and together we laid plans for our first water safety meeting. During the next few weeks we contacted many of the local civic clubs, as well as some of the sportsman clubs to discuss the problem with them. We discovered that most of them had a genuine interest in water safety and they pledged us their support. It was noted that several of the clubs had a safety officer, who welcomed the opportunity to be a member of a water safety council.

Just prior to our first meeting the American Red Cross replaced their local representative. The new man however, was also very receptive to the plan and aside from a slight delay our program moved along satisfactorily. Our first meeting was held rather informally during the latter part of September with six present. Preliminary discussions were on the formation of a water safety council.

The next two meetings were held during November with 10-12 people present. Each participant responded briefly on his particular interest in the water safety program and how he thought the organization of a safety council could help out. At the November 30 meeting, Mr. Ted Tuttle, Boating Specialist, Utah State Parks and Recreation Commission was guest speaker. At these meetings our roster of prospective members was expanded to approximately 24. This list included many prominent men from this area representing several organizations and professions.

The election of officers and committee chairmen was accomplished during two February meetings. Nominations were made for the office of President, Vice President, and Secretary, and for Chairmen of the following committees: (1) Swimming Activities, (2) Boat Safety, (3) Public Education, (4) Publicity, and (5) Legislation, at the February 1 meeting. Selections were made at the next meeting by popular vote. According to the recommended procedure, the Bureau of Reclamation and American Red Cross representatives bow out at the time of elections and assume the role of advisors, leaving the active leadership of the council to the elected officers. In our case, however, something went wrong and the American Red Cross representative and the Bureau representative were elected President and Secretary, respectively, of the water safety council.

The elected officers and the committee chairmen would constitute an executive board which would direct the activities of the council. This board was directed to formulate a set of bylaws to govern the activities of the council. This action may be unprecedented in the history of "Operation Westwide," however, we believe that the program will be enhanced by it. We believe that for any organization to function properly and smoothly over a period of years, the purpose, duties, and responsibilities of that organization and its members must be clearly defined and properly executed. We believe that the bylaws will do this in large measure. The draft of bylaws will be given cursory review by the Regional Safety Officer and Field Solicitor before they are presented to the council for approval.

Some of the anticipated future activities of the Cache County Water Safety Council are as follows:

1. Annual or semiannual inspection of hazardous areas by Council members and representatives of water users organizations. The inspection will be conducted with the question in mind, "Could anyone be injured or drown here?" Results of the inspections and the proposed action recommended would be aired in the newspapers and over radio.

2. The council would sponsor TV and radio panels on water activities and water safety.

3. Encourage spot announcements on safety by local business firms as a method of advertising.

4. Cooperate with water user organizations in protecting the public from hazardous areas.

5. Promote the enactment of desirable water safety legislation such as (a) boating and swimming regulations, (b) regulations of subdivision planning near canals or other waterways, (c) regulation of resort owners to provide minimum safety facilities.

6. Encourage all practical "built-in" safety features be provided in new construction, including fencing, man and animal escape features, etc.

7. Promote safety poster and slogan contests in local schools and clubs.

8. Provide good water safety films and literature and encourage their use by local civic groups, schools, clubs, etc., at their meetings.

9. Sponsor water safety presentations on the proper care of boats, water skis, etc., and demonstrate correct water rescue, and resuscitation procedures. This could be handled by the American Red Cross swimming instructions, boy scouts, or boat club personnel.

10. Cooperate with civic clubs and local political leaders and others to provide better municipal swimming facilities for both summer and winter use. This would discourage the use of unauthorized, unsupervised and dangerous areas and would also greatly enhance the American Red Cross Swimming Instruction Program.

11. Encourage local service and civic clubs to donate money or material, and have school woodwork classes, boy scout troops, etc., make and place safety signs and posters as a project. This would bring many people old and young, actively into the water safety program.

There are many, many more worthwhile activities limited only by the resources and ingenuity of any particular water safety council.

It has been a pleasure to discuss our "Operation Westwide" program with you today. If our office can be of assistance to you in solving your water safety problems in your area, please let us know.

--Region 4 Safety News

* * * * *

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication entitled, "Safety Requirements for Construction by Contract, Third Edition, September 1962."

Subject Matter: General

1.	The handbook "Safety Requirements for Construction by Contract" is applicable to all contractors when the prime contract amount exceeds $10,000.	T	F
2.	The prime contractor is responsible for the safety performance of all his subcontractors.	T	F
3.	If the contracting officer approves a deviation from the rules set forth in the safety handbook, the intent of the requirement must be met.	T	F
4.	The requirements of this handbook may be relaxed if the contractor is behind schedule or has an urgent deadline to meet.	T	F
5.	Written notice by the contracting officer pertaining to noncompliance by the contractor shall be deemed sufficient notice to effect positive corrective measures.	T	F
6.	Should a contractor refuse to comply with manual requirements on one phase of his operations, all of his operations should be shut down until corrective actions have been effected.	T	F
7.	A contractor whose operations have been shut down because of noncompliance with these requirements may be reimbursed for such down time.	T	F
8.	Obvious unsafe conditions or methods of operation not specifically covered by this handbook shall be dealt with in a common-sense manner maintaining the level of safety intended by the handbook.	T	F
9.	Threats by a contractor of extra costs, or a claim against the Government shall in no way alter our demand that all operations be performed in a safe manner.	T	F

10. Contractors shall submit their proposed safety program to the contracting officer prior to the start of construction operations. T F

11. Joint Safety policy committee meetings, top Government and contractor personnel, are required to be held on a monthly basis. T F

12. On the job safety meetings shall be conducted on a weekly basis by all supervisors or foremen and all tradesmen and laborers shall attend. T F

13. All contractor supervisors of workmen shall possess a current first-aid certificate. T F

14. New contractor employees, regardless of their background, shall be given adequate indoctrination to insure they will understand their responsibilities on the job and the general policy of both the Government and contractor. T F

15. Except under emergency conditions, instructions by inspector personnel relating to safety matters shall be through the contractor's supervisory personnel. T F

16. The inspector's responsibility ceases after he has notified the contractor of noncompliance with safety requirements. T F

17. Notations in daily inspection reports on items of safety should also include corrective measures effected. T F

For answers refer to page 25.

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Colorado River Front Work and Levee System, Region 3. View of wire rope storage rack built in project welding shop at Needles, California. Bureau of Reclamation photo P-423-306-2846.

Colorado River Front Work and Levee System, Region 3. View showing six spools of wire rope on newly installed storage rack. The rack was fabricated in the welding shop at Needles, California, by Project personnel. Bureau of Reclamation photo P-423-306-2845.

Boulder City Development Office, Region 3. View of warning sign for motorists used by survey crews of the Development Office, Boulder City, Nevada. This type of sign is effective where warnings to the public are required. The barricade is 36 inches high and can be extended to 48 inches in length. It is light in weight and easy to store and handle. The red flag and amber blinker light are removable. The 18- by 24-inch survey crew sign with yellow background and black letters is hung on the barricade. Cost of the complete assembly is about $40. Bureau of Reclamation photo PX-D-38921.

VEHICLE SAFETY

CASE HISTORY REPORT ON SAFETY BELTS

Australia's first case history study of car safety belts published recently by the Snowy Mountains Authority contains some startling examples of how belts protect the wearers against death and injury in a road accident.

Since its inception 13 years ago, the Snowy Mountains Authority has placed heavy emphasis on road safety in the operations of its fleet, now totaling 700 light and heavy vehicles, which have traveled 50 million miles.

Safety belts were adopted by the Authority as one method of protecting people traveling in S. M. A. vehicles. These were installed in all Authority vehicles, including tractors, cranes, and over-snow vehicles. Employees were liable to disciplinary action if they did not wear belts.

During the period, July 1960 to August 1962, a study was made of all serious accidents involving S. M. A. vehicles. Safety belts were worn in 19 of 20 accidents.

The types of accidents covered practically every contingency. Vehicles rolled over--several of them down mountain sides for up to 100 feet--while others hit trees, collided head-on, and crashed into drains and down embankments.

The Results

In 19 accidents involving 28 people, all of them wearing safety belts--12 escaped injury and the remaining 16 suffered only minor injuries.

In the one accident where seat belts were not worn, all occupants were injured. The two passengers had severe lacerations which, in one case, required skin grafting. The driver sustained cuts and bruises to his head.

Conclusion

A well designed safety belt correctly installed can reduce seriousness of injury in an accident by preventing a person from being thrown about inside the car or from being ejected from the car.

--With acknowledgements to Safety News, The National Safety Council of Australia

Region 3. The program for installing seat belts in private vehicles for Parker-Davis Project and Yuma Projects personnel has been very successful. Parker-Davis sold 249 belts, or 83 belts per hundred employees; and Yuma sold 226 belts, or 131 belts per hundred employees.

Your safety committee has noted on several occasions that some employees who drive Government vehicles are occasionally neglecting to fasten their seat belts. In accordance with Reclamation Instructions, Part 365.7.2.D(1), the use of seat belts is mandatory for all drivers and passengers in Bureau-operated vehicles. All Bureau offices should conduct an educational program on the necessity for use of seat belts including emphasis at safety meetings.

PRESSURIZED TIRE REPAIR KIT

Parker-Davis Project has reported that two explosions have been called to their attention which occurred in vehicles in the Phoenix area, due to overheating of small cans containing compressed air and a sealing compound used to inflate and repair flat tires. One of these cans exploded in the trunk of a compact car causing considerable damage. In the other car, the can was stored in the glove compartment. Upon exploding, the instrument panel was damaged and the windshield was blown out. Your Regional Safety Committee recommends that all employees be advised of the potential danger of any pressurized can, as normal desert temperatures are high enough to cause expansion and an ensuing explosion. Field offices are requested to check first-aid kits to be assured that pressurized cans are not included in kits that are in vehicles or stored in areas of high temperatures.

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ANSWERS TO SAFETY QUIZ

	Reference							
1.	*(1-2)	T	7.	(1-6)	F	13.	(2-7)	T
2.	(1-7)	T	8.	(1-5)	T	14.	(3-1)	T
3.	(1-5)	T	9.	(1-6)	T		(3-3)	T
4.	(1-6)	F	10.	(2-1)	T	15.	-	T
5.	(1-6)	T	11.	(2-3)	T	16.	-	F
6.	(1-6)	F	12.	(2-5)	T	17.	-	T

*( ) Refers to appropriate paragraph of "Safety Requirements for Construction by Contract, Third Edition 1962.

* * * * *

Participants in Region 7 safety workshop. From left to right are Ralph Meager, Kansas River Projects; Allen Currie, Niobrara-Lower Platte Projects; Charles Saunders, North Platte River Projects; Dennis Fankhouser, Fryingpan-Arkansas Project; Woodrow Hayes, Denver Development Office; and Lauren Simon, South Platte River Projects.

The above safety personnel were among those who participated in Region 7's Safety Conference and Workshop held in Denver on May 20-21, 1963. Regional Safety Engineer George Winans was chairman of the 2-day workshop. Project Safety Officers presented talks on assigned safety subjects and group discussions were held on the major phases of the accident prevention program. Chief Safety Engineer Howard Latham addressed the group on the Bureau's Safety Program for 1963.

SAFETY COLOR CODES

Safety codes for the use of standard colors for identification of equipment and hazards have been developed by the American Standards Association. ASA Code Z53.1-1953 specifies uniform colors for marking physical hazards, for indicating the location of safety equipment, and for identifying fire and other protective equipment.

Red is for identification of fire protection apparatus, and for walk or supports on which extinguishers are mounted; flammable liquid containers (except shipping containers) on which the name of the contents should be stenciled; lights at barricades and danger signs; emergency stops on machines, and emergency stop buttons for electrical switches.

Yellow has high visibility, suitable for marking hazards that may result in slipping, falling, and bumping into objects. Stripes or checks of yellow and black may be used to attract special attention. Top and bottom treads of stairways, low beams and pipe, and crane hooks are places where yellow may be used. Black and yellow stripes often are used on mobile equipment such as tractors and industrial locomotives.

Green in combination with white, such as a green cross on a white background, designates location of first-aid and safety equipment. Location of stretchers, gas masks, and bulletin boards is identified by this color.

Black and white, in stripes or checks, are used for housekeeping and traffic marking.

Orange has high attention value. It is the basic color for marking dangerous parts of machines or energized equipment. It emphasizes such hazards when enclosure doors are open, or when gear, belt, or other guards around moving equipment are open or removed, exposing unguarded hazards.

Blue is for warnings, such as painted barriers or flags. These should be located conspicuously at the starting point or power source of machinery.

Purple is the official color for designating radiation hazards. Yellow should be used with purple for tags, labels, signs, and floor markers.

Five basic colors for identification of the contents of pipes are specified in ASA Code A13.1-1956. Identification may be provided by stenciled legends, self-adhesive tapes or painted stripes.

Color may be applied the entire length of the pipe or in bands 8-10 inches wide near valves and pumps, and at intervals along the line. The name of the specific material is stenciled in black conspicuously at valves, pumps, and similar places.

--National Safety Council

HANDLING ACETYLENE CYLINDERS

The following accident emphasizes the hazard of storing, using or transporting acetylene cylinders on their sides.

After transporting horizontally positioned full acetylene cylinders a distance of 17 miles on a pickup truck, the driver was lowering a cylinder to the ground when it exploded. Injuries which resulted included burns to the face, shoulders, arms, chest, and back.

Acetylene cylinders always should be in a vertical position. As a gas, acetylene is explosively unstable at high pressures. This is why acetylene regulators have 15 pounds per square inch as a maximum setting. For storage and shipment of acetylene, it is necessary to dissolve it in acetone. Stability of the mixture is further increased by filling the cylinder with a porous material. The safety of this unstable mixture depends upon the necessary amount of acetone and filler material present. If the cylinder lies on its side, the filler material is displaced, with the possibility of channels forming in the filler. These channels may be large enough to allow local decomposition of the acetylene with resulting destructive high pressures. Actual use of the cylinder on its side permits loss of the acetone through the outlet again resulting in void spaces. Rough handling of the cylinder may result in a shift of the filter.

Recently a blast near Pottstown, Pennsylvania, flattened a concrete-block garage and shop, killing three men including the owner.

Investigation, following the accident, was difficult because of the complete destruction of the shop. However, the evidence indicated that an acetylene tank had been damaged (probably dropped) and that gas had escaped. The gas may have been ignited by a space heater in the garage. The flames apparently flashed back to the damaged acetylene cylinder, causing it to explode. An adjoining oxygen cylinder also exploded.

--Region 4 Safety News

ACTIVATING PERSONAL AWARENESS OF ACCIDENTS

Due to the large number of Irrigation O&M employees on the Columbia Basin Project and the high accident rate, we had to find some means of control. A meeting was held in Project Irrigation Headquarters, Ephrata, Washington, with all Watermasters, Branch Managers, and the Irrigation Supervisor and his assistant, in late summer of 1962.

It was concluded in this meeting that every disabling injury accident was the result of several near accidents. For this reason, the following control procedure was set up.

Safety Committees already active at all levels of project operations, from Section, Branch, Division, to the Project Safety Committee were named as Accident Review Boards.

Each accident, not involving a lost-time injury, that occurred would require the employee and his supervisor to appear before the Section or the next higher echelon Safety Committee to explain why it happened and to participate in a frank discussion of how to prevent a recurrence.

When a lost-time accident occurred, the injured employee (when he returned to work) would have to appear with his supervisor before the Project Irrigation Safety Committee and explain why it happened, how it happened, and what preventive action should be taken to prevent a recurrence.

Irrigation forces, representing 19 percent of the total employees in Region 1 were experiencing 35 percent of the lost-time accidents. Following formation of the Accident Review Boards, the accident rate has dropped 55 percent.

These Accident Review Boards are to be extended to all projects and their various divisions throughout the Region. We now have them organized in practically all Irrigation Divisions.

--Region 1

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FILMS AVAILABLE FROM RED CROSS

Films are available for showing without charge from local Red Cross Chapters. A 32-page pamphlet "Catalog of Motion Pictures, Television Aids, Slide Series" can be obtained from your Red Cross Chapter.

Local chapters make requests for free loan prints in duplicate on "Request for Loan of Film Print" (Form 5085) sent to the area office. Wherever possible, the order should be placed at least from 2 to 3 weeks in advance of the desired show date.

The safety service films listed in the 1962 catalog are:

Boats, Motors and People
Checking for Injuries
Danger is Your Companion
First Aid (Parts I and II)
First Aid for Burns in Civil Defense
Fundamentals of Swimming (Unit 2)
Heads Up
It's Fun to Swim
Learning How to Swim (Unit 1)
Midsummer's Nightmare
Oars and Paddles
People Afloat
Skilled Swimming (Unit 3)
Teaching Johnny to Swim
You Are the Lifeguard
Your Breath Can Save a Life

--Public Safety Newsletter, May 1963

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DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH May 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	244	42,944	206,592							0.0	0.0		0	0
Denver Office	1,440	253,440	1,216,648		1			7		0.8	0.8		6	23
Alaska District	37	6,080	28,192							0.0	0.0		0	0
REGION 1														
Boise Regional Office	170	26,640	131,086							0.0	0.0		0	0
Central Snake Projects	48	6,849	33,658		1			10		29.7	27.3		297	27
Chief Joseph Dam Project	37	6,352	31,497							0.0	0.0		0	0
Coeur d'Alene Project	18	3,379	13,752							0.0	0.0		0	0
Columbia Basin Project	853	156,952	739,938		2			10		2.7	10.8		13	39
Hungry Horse Project	52	9,012	44,193							0.0	22.0		0	440
Lower Columbia Development	39	6,168	28,663							0.0	0.0		0	0
Minidoka Project	134	22,844	113,042							0.0	16.5		0	28
Rogue Project	4	675	4,530							0.0	0.0		0	0
Snake River Development	40	7,907	34,321							0.0	29.8		0	17,889
The Dalles Project	36	6,143	28,228							0.0	0.0		0	0
Upper Columbia Development	37	5,704	32,684		2			10		61.2	0.0		306	0
Vale Project	20	3,044	16,697							0.0	0.0		0	0
Yakima Project	29	4,593	22,139		1			4		45.2	46.3		181	179
Totals and Averages	1,537	266,262	1,276,427		6			34		4.7	11.0		27	518
REGION 2														
Sacramento Regional Office	589	103,664	502,352		1			90		2.0	6.0		179	18
Folsom Field Division	61	10,760	52,870							0.0	0.0		0	0
Fresno Field Division	147	25,872	125,688							0.0	7.8		0	209
Shasta Field Division	113	19,988	95,861							0.0	10.2		0	976
Tracy Field Division	179	31,847	157,595							0.0	19.3		0	592
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution	8	1,416	16,582							0.0	0.0		0	0
Klamath Project	33	5,830	28,460							0.0	0.0		0	0
Lahontan Basin Project	25	4,400	21,720							0.0	0.0		0	0
Red Bluff Office	109	19,184	95,408		1	1		6,000		10.5	0.0		62,888	0
San Luis Unit	404	74,336	297,670		4			64		13.4	0.0		215	0
Trinity River Division	184	33,824	175,173		2			19		11.4	0.0		108	0
Willows Field Office	20	3,520	10,544							0.0	--		0	--
Totals and Averages	1,872	334,641	1,586,411		8	1		6,173		5.0	5.2		3,891	146
REGION 3														
Boulder Regional Office	128	22,528	113,120							0.0	0.0		0	0
Boulder City Development	10	1,760	8,584							0.0	0.0		0	0
Boulder Canyon Project	144	27,566	132,478	1	2		50	53	36.3	15.1	21.9	1,814	400	650
Colorado River F&LS	78	12,739	62,000		1			4		16.1	35.5		65	124
Parker-Davis Project	201	48,615	225,001		1			11		4.4	4.3		49	17
Phoenix Development	104	18,304	86,680	1	2		1	139	54.6	23.1	21.5	55	1,604	22
Southern California Development	18	2,607	9,407							0.0	--		0	--
Yuma Projects	177	26,103	118,523							0.0	0.0		0	0
Totals and Averages	960	160,222	755,803	2	6		51	207	12.5	7.9	10.1	318	274	146
REGION 4														
Salt Lake Regional Office	308	73,664	293,782							0.0	0.0		0	0
Emery County Project	38	6,928	31,502							0.0	0.0		0	0
Central Utah Projects	121	22,348	109,440							0.0	15.1		0	741
Curecanti Unit	94	16,626	74,983							0.0	17.5		0	104,941
Flaming Gorge Unit	140	20,199	114,271							0.0	0.0		0	0
Glen Canyon Unit	348	56,230	302,033		1			14		3.3	10.8		46	2,805
Navajo Unit			8,601							0.0	0.0		0	0
Transmission System Office	81	14,286	67,462		1			12		14.8	0.0		178	0
Durango Projects	88	17,327	69,398							0.0	12.9		0	103
Grand Junction Projects	89	17,440	78,156							0.0	8.7		0	295
Logan Development	15	2,608	11,700							0.0	0.0		0	0
Seedskadee Project	73	12,552	59,143							0.0	0.0		0	0
Upper Green River Project	18	2,880	15,000							0.0	0.0		0	0
Weber Basin Project	216	37,996	177,604							0.0	0.0		0	0
Power Operations Office	6	1,183	1,183							0.0	--		0	--
Totals and Averages	1,635	302,467	1,414,242		2			26		1.4	5.7		18	4,947
REGION 5														
Amarillo Regional Office	115	18,400	99,224							0.0	0.0		0	0
Albuquerque Development	37	5,827	27,474							0.0	0.0		0	0
Austin Development	71	10,772	59,987							0.0	0.0		0	0
Canadian River Project	146	24,485	126,634							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	48	9,208	46,400							0.0	0.0		0	0
Middle Rio Grande Project	221	35,644	189,487	1	3		16	22	28.1	15.8	12.4	449	116	128
Navajo Indian Irrigation Project	44	8,167	30,392		1			2		32.9	--		66	--
Norman Project	77	12,412	63,017							0.0	0.0		0	0
Oklahoma City Development	31	4,985	24,344							0.0	0.0		0	0
Rio Grande Project	279	51,900	232,602		1			7		4.3	16.2		30	97
San Angelo Project	8	1,296	34,682							0.0	25.1		0	1,241
San Juan-Chama Project	54	8,304	16,193							0.0	--		0	--
Wichita Project	54	9,940	52,017							0.0	34.6		0	35
Totals and Averages	1,185	201,340	1,002,456	1	5		16	31	5.0	5.0	10.1	79	31	157
REGION 6														
Billings Regional Office	236	37,982	189,103							0.0	0.0		0	0
Canyon Ferry Project	21	3,589	15,194		1			18		65.8	0.0		1,185	0
East Bench Project	73	13,171	56,762							0.0	0.0		0	0
Fort Peck Project	35	5,344	27,767		1			11		36.0	0.0		396	0
Missouri-Oahe Projects	268	42,880	217,834		1			41		4.6	9.8		188	1,168
Missouri-Souris Projects	124	19,852	101,909		2		6	12	50.4	19.6	9.3	302	118	56
Power System Operations	41	6,560	35,360							0.0	0.0		0	0
Riverton Project	34	5,598	24,997							0.0	0.0		0	0
Upper Missouri Projects	86	14,736	68,745							0.0	12.4		0	[illegible]
Yellowtail Project	125	20,662	89,199							0.0	0.0		0	0
Totals and Averages	1,043	170,374	827,871	1	5		6	82	5.9	6.0	[illegible]	[illegible]	[illegible]	308
REGION 7														
Denver Regional Office	174	30,624	145,210							0.0	0.0		0	0
Denver Development	28	4,904	24,280							0.0	0.0		0	0
Fryingpan-Arkansas	64	9,927	38,493		1			400		26.0	--		10,391	--
Kansas River Projects	326	57,376	277,816							0.0	3.6		0	29
Niobrara-Lower Platte Projects	237	45,920	240,160	1	1		6	6	21.8	4.2	0.0	131	25	0
North Platte River Projects	296	47,360	239,201		1			17		4.2	0.0		71	0
South Platte River Projects	170	27,200	140,264		1			9		7.1	6.9		64	97
Totals and Averages	1,345	223,311	1,105,430	1	4		6	432	4.5	3.6	1.8	27	391	20
CONSOLIDATED TOTALS	11,298	1,961,081	9,419,068	5	37	1	79	6,992	2.5	3.9	5.9	40	742	907
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH May 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	31	2,963	11,603							0.0	0.0		0	0
Columbia Basin Project	131	20,246	100,640							0.0	8.9		0	27
Coeur d'Alene Project	44	8,036	29,355							0.0	--		0	--
Minidoka Project			967							0.0	0.0		0	0
Rogue Project			8,437							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	55	9,566	37,099							0.0	--		0	--
Vale Project	42	6,493	55,328							0.0	0.0		0	0
Yakima Project	16	1,379	10,193							0.0	0.0		0	0
Totals and Averages	319	48,679	249,641							0.0	5.1		0	15
REGION 2														
Distribution System Projects			18,390		2			15		108.8	45.9		816	1,136
El Dorado Distribution	3	200	11,399							0.0	84.3		0	1,160
Fresno Field Division			8,711		2	1		6,021		229.6	--		691,195	--
Klamath Project	2	139	1,590							0.0	0.0		0	0
Red Bluff Office	120	21,120	116,824							0.0	0.0		0	0
San Luis Unit	561	91,665	223,663	3	6		169	206	32.7	25.7	0.0	1,844	882	0
Tracy Field Division	6	1,206	8,221							0.0	--		0	--
Trinity River Division	191	30,214	257,104		11			6,135		42.8	41.3		23,862	751
Totals and Averages	883	144,544	655,902	3	21	1	169	12,377	20.8	32.0	41.6	1,169	18,870	768
REGION 3														
Colorado River FW&LS	35	3,957	8,855							0.0	0.0		0	0
Parker-Davis Project	50	7,501	37,846	1	2		60	95	133.3	52.8	--	7,999	2,510	--
Phoenix Development	10	2,300	2,300							0.0	--		0	--
Yuma Projects	8	501	1,328							0.0	24.6		0	641
Totals and Averages	103	14,259	50,329	1	2		60	95	70.1	39.7	23.2	4,208	1,888	604
REGION 4														
Central Utah Projects	17	1,869	7,511							0.0	32.7		0	1,997
Curecanti Unit	315	70,522	248,830	2	6		73	158	28.3	24.1	0.0	1,035	635	0
Flaming Gorge Unit	605	108,119	390,464	3	8	2	124	12,238	27.7	20.5	9.6	1,147	31,342	11,736
Glen Canyon Unit	1,476	265,095	1,456,025	1	19		5	434	3.8	13.0	21.5	19	298	1,109
Navajo Unit			32,081							0.0	14.3		0	611
Florida Division	185	41,754	70,076	1	1		45	45	23.9	14.3	38.4	1,078	642	1,052
Grand Junction Projects	4	700	9,852							0.0	24.9		0	282
Seedskadee Project	330	67,688	213,718		1			90		4.7	9.1		421	46
Weber Basin Projects	358	66,618	206,336		3			22		14.5	35.6		107	202
Emery County Project	6	265	265							0.0	0.0		0	0
Totals and Averages	3,296	622,630	2,635,158	7	38	2	247	12,987	11.2	12.4	18.9	847	4,428	3,060
REGION 5														
Amarillo Regional Office	19	3,391	6,951							0.0	--		0	--
Austin Development			1,221							0.0	--		0	--
Canadian River Project	344	70,634	389,593	1	2		4	25	14.2	5.1	50.0	57	64	1,366
Lower Rio Grande Rehabilitation	78	7,254	78,063							0.0	19.2		0	19
Norman Project	123	20,345	74,086							0.0	--		0	--
Oklahoma City Development	5	636	1,785							0.0	--		0	--
Rio Grande Project			6,929							0.0	--		0	--
San Angelo Project			50,889							0.0	27.8		0	355
Wichita Project	200	37,720	121,126								0.0			0
Totals and Averages	769	140,030	730,647	1	2		4	25	7.1	2.7	31.8	29	34	379
									1				1	1
REGION 6														
East Bench Project	286	39,242	116,050	3	8		6	48	76.4	68.9	40.3	153	414	423
Missouri-Oahe Projects	107	16,098	48,450	1	2		11	18	62.1	41.3	17.3	683	372	52
Missouri-Souris Projects	144	21,558	57,624		1			5		17.4	88.0		87	6,597
Riverton Project	7	1,693	9,993							0.0	0.0		0	0
Upper Missouri Projects	12	2,122	7,383		1			3		135.3	0.0		406	0
Yellowtail Project	644	104,630	356,738		4	4		24,000		11.2	16.0		67,276	828
Totals and Averages	1,200	185,343	596,243	4	16	4	17	24,074	21.6	26.8	23.1	92	40,376	813
REGION 7														
Kansas River Projects	372	73,622	198,803							0.0	10.6		0	1,277
Niobrara-Lower Platte Projects	463	84,767	214,563		2			5		9.3	8.0		23	48
North Platte River Projects	20	1,683	5,172							0.0	0.0		0	0
South Platte River Projects	3	218	2,522							0.0	0.0		0	0
Totals and Averages	858	160,290	421,060		2			5		4.7	8.8		12	558
CONSOLIDATED TOTALS	7,428	1,315,775	5,338,991	16	81	7	497	49,563	12.2	15.2	23.2	378	9,283	1,767
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

4.805
HR

SAFETY RECORD

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

June 1963

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TABLES

Safety Performance Record

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Front Cover Photo: Flaming Gorge Unit. Erecting tower structure downstream of Dam. Workmen tied off with safety belts. Reclamation photo P-591-421-4878.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

A SAFETY PROGRAM WITH TEETH IN IT

(Reprinted by permission of the Editor and Publisher, from AGC editorial in THE CONSTRUCTOR, June 1963.)

The construction industry in the past 30 years has cut the frequency rate of accidents by two-thirds, and the severity rate by more than one-half. This sounds impressive--and there is no denying that it represents great progress.

But, with the tremendous volume of construction done these days, there were in 1961 some 2,300 deaths and 200,000 disabling injuries in the industry, according to the National Safety Council.

In the words of one contractor, "We have come a long way, but we still have a long way to go."

In addition to the humanitarian aspect, which is the foremost responsibility of employers, there also is a compelling economic motivation in accident prevention--not as apparent as the routine costing out of obvious bid items--that must be taken into consideration by the most realistic businessmen.

Only in recent years have statistical data reached the point where hidden costs of accidents can be spelled out fairly reliably in dollars and cents. While it generally is assumed that for all industry the ratio of hidden costs is four times the direct, or medical and compensation, costs, it is accepted that in construction the ratio actually is 20 to 1.

If these "hidden" items--such as damage to equipment and materials, spoiled work, schedule disruptions, loss of trained manpower, sympathy slowdowns, etc.--are added to direct costs, it has been estimated that the industry's accident bill comes to something around $2 billion a year.

Even if "hidden" costs are disregarded, one needs only to examine the steady upward trend of benefits for worker disability to recognize the importance of direct costs of accidents. Workmen's compensation insurance is an important bid item. It can run anywhere from 2 or 3 percent of your job payroll to 15 or 20 percent in some states for extra-hazardous classifications like structural-steel erection.

By totally disregarding accident prevention, a contractor can find himself paying oppressive compensation insurance rates. By guarding his reputation as a good risk he can lower both his compensation and property damage rates.

A contractor of our acquaintance launched a determined safety program a few years ago. Operating under a retrospective rating plan with his

workmen's compensation insurance, he received refunds totaling $61,000 over a 3-year period due to an improved accident record. At the same time, the improved experience rating meant a 39 percent reduction in workmen's compensation insurance rates after 3 years.

This same contractor, before starting his safety program, had lost a multimillion dollar project by less than $15,000 in the bid--an amount easily covered by savings he later won with an improved accident rate.

The traditional system of state compensation plans which provide an incentive for good safety programs by basing insurance rates on an employer's safety performance is now threatened by encroachment of the Federal social security system. In addition, continual legislative attempts are made to saddle the construction industry with restrictive, impractical safety codes.

The best weapon with which to combat these two dangers is to make a voluntary safety program work, and to show that it is working.

The "safety certification" program just announced by AGC is the most practical--and holds promise of being the most effective--action in this direction to date.

* * * * *

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
(January 1 - June 30, 1963)

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Alaska District	0.0	0	0.0	0.0
Region 4	2.4	30	0.7	2.8
Region 7	2.9	318	9.2	2.9
Region 5	4.1	26	1.1	4.7
Region 1	5.2	28	1.4	1.5
Region 2	5.8	3,290	190.8	5.9
Region 6	6.0	95	5.7	3.0
Region 3	7.5	259	19.4	5.3
Total to date	4.1	633	25.9	3.7
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	2.4	30	0
Region 7	5.0	345	0
Region 4	15.8	6,086	3
Region 6	21.5	30,556	4
Region 3	27.3	1,294	0
Region 2	27.4	14,794	1
Total to date	14.8	8,514	8
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to date: June 30, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
5	Vehicles	3	6,173
7	Explosions	1	6
9	Electricity	1	3
12	Handling Material	14	615
13	Falling Objects	1	11
14	Falls of Persons	10	73
15	Jumping to Places	2	5
17	Flying Particles	1	4
18	Handtools	3	35
19	Machinery	2	97
20	Not otherwise classified	8	151
	Totals	46	7,173

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	2,702,041	0	0	0.0	0
Construction	2,905,163	14	6,163	4.8	2,121
Design	1,183,990	2	11	1.7	9
Investigation	1,436,666	9	689	6.3	480
O&M-Irrigation	1,363,812	9	145	6.6	106
O&M-Power	1,744,624	12	165	6.9	95
Totals	11,336,296	46	7,173	4.1	633

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
2-18-63	Laborer	Drill hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000

ACCIDENT REVIEW

WATER TRUCK

Employer: Contractor
Activity: Lowering water truck down ramp.
Accident Situation and Occurrence: The water truck operator had positioned the loaded water truck in line with a ramp on an incline. The dozer operator was moving the dozer so the water truck could be attached with a cable from the dozer. Then the dozer would gradually lower the water truck down the ramp. Before the cable was attached, the truck driver attempted to move the truck a short distance down the ramp; the truck rolled back and overturned at the bottom of the ramp. The truck driver was not injured.
Cause Determination: The water truck should have been hooked to the dozer while on level ground and then proceed to be lowered down the ramp with the cable attached.

PONTOON BARGE

Employer: Government
Activity: Working on pontoon barge.
Accident Situation and Occurrence: Employee was on a pontoon barge. In the process of removing slings from a pontoon section, he stepped into the space between the pontoons. He received abrasions to his left leg and lost 4 days from work. Closure plates should have been installed over the openings between the pontoon sections.

METAL SKIP

Employer: Contractor
Activity: Handling metal skip.
Accident Situation and Occurrence: A carpenter was guiding a 4-foot by 3-foot by 3-foot metal skip through an opening by holding on to the hoist cable. The cable pulled his right hand into the sheeve. Right thumb was amputated at the first joint with a fixed charge of 300 days lost.
Cause Determination: This incident points up the rule to never hold on to a moving cable and to use a tag line for guiding purposes.

HANDLING FORM

Employer: Contractor
Activity: Carrying steel form.
Accident Situation and Occurrence: Employee and two other workmen were carrying a steel form for a tower footing. As the two workmen set their end of the form on the ground, the other end slipped out of the injured employee's hand and struck his foot. He received a fracture of the left great toe and the time lost was 35 days.
Cause Determination: Lack of coordination between movements of the three employees was the main cause of this accident. Wearing of safety toe shoes would have prevented this injury.

DUMP TRUCK

Employer: Contractor
Activity: Dumping fill material on embankment.
Accident Situation and Occurrence: Operator was driving a bottom dump euclid along shoulder of embankment. The vehicle got too close to edge, slid down the slope and overturned. The operator received lacerations to his left foot and estimated lost time was 56 days.
Cause Determination: Driving too fast and too close to edge of embankment. A new traffic pattern has been established for placing embankment near slopes.

HANDLING LUMBER

Employer: Contractor
Activity: Handling lumber.
Accident Situation and Occurrence: Carpenter was engaged in the assembly of a prefabricated timber check form. A wood sliver was driven into the palm of his right hand. Infected puncture wound with 4 days' lost time.
Cause Determination: Failure to obtain prompt first-aid treatment. Should wear gloves when handling rough lumber.

VEHICLE SAFETY

MORE SAFETY SEAT BELTS COMING

As this issue goes to press, more than 20 states are considering legislation making mandatory the installation of safety seat belts in all new automobiles. Already a number of other states have passed laws requiring the installation of seat belts. We venture the prediction that the time will come soon when seat belts will be standard equipment on all cars just as we take for granted safety glass for which this publication campaigned vigorously more than 25 years ago.

There is just one all-important difference between the use of safety glass and the protection afforded by seat belts. The safety glass is there and we have no choice but to use it. However, the most secure safety belt on earth will be of little value when needed unless it is in use. It is in this area, therefore, where a long and tireless program of education will be necessary before we can expect any truly beneficial results. It will not be easy to educate the public to use the protection afforded by a scientifically designed and approved seat belt. But it can be done.

With so many more vehicles on our streets and highways and the death and injury toll of street and highway accidents on the way up because of this added exposure, we must devise some means of forcing our drivers and our riders to use the belts once they are installed. Otherwise, all the legislation and propaganda we can bring to bear will do very little to prevent motorists from being tossed out of vehicles.

--Safety Maintenance, June 1963.

* * * * *

NOVEL DEER CROSSING

A series of mirrors is being placed along an Illinois highway in a refuge area which is inhabited by an estimated 2,000 deer. Purpose of the installation is to protect the deer from auto accidents at night. Mirrors are placed at 45° angle to the road so they will reflect headlight beams into the woods and crossing areas, warning deer of approaching vehicles.

* * * * *

AMERICAN SEAT BELT COUNCIL SETS UP QUALITY CONTROL PLAN

In a move almost unprecedented in American industry, the American Seat Belt Council assumed a responsibility to the general public by embarking on a continuous surveillance program dedicated to police the quality of seat belts produced by its members. By its continuous quality control test and certification seal program, the Council makes certain that belts offered for sale to the public met minimum recommended standards of safety.

The Council adopted the Society of Automotive Engineers' Motor Vehicle Seat Belt Assemblies Standard as its official standard and the Robert W. Hunt Company, Engineers, was selected as the Council's testing laboratory.

In October, 1962, the ASBC issued its first directory of seat belt models which have met with approval.

The ASBC does not set standards, endorse belts nor support manufacturers' claims. Its primary purpose is to provide a means of proving compliance with SAE standards.

Continuous Test Program

Manufacturers of complete automotive seat belts assemblies may enter the program by becoming a member of the American Seat Belt Council, by signing a licensing agreement with the Council and by subjecting his products to the continuous test program and meeting standards consistently. Manufacturers of automotive seat belt webbing or hardware may also enter the program by becoming a member of the Council. The program is financed by dues contributions by member companies.

The Council has 25 laboratory inspectors continuously checking seat belt assemblies at all stages, from the manufacturer of the seat belt webbing yarn and hardware to the selection of seat belts from retailer stocks.

For his payment of dues, each member is entitled to have up to four models and four colors of each model tested periodically by the testing laboratory at the expense of ASBC. The certification program is not based on a "one-time" test, but rather on periodic and continuous samples selected at random by the laboratory. For some 34 of the 50 states, the ASBC seal is the only independent guide available to seat belts which meet SAE standards.

The Seal of Approval of the American Seat Belt Council thus far has been granted to a total of 89 automotive seat belt models. Once a seat belt has been accepted by the Council as a result of the test, the manufacturer is authorized to affix the Seal of Approval to the belt. The entire belt--webbing, buckle and hardware--is subjected to tests. They must pass minimum standards for tensile strength, loop load, buckle-release force, elongation, crocking or color fastness, slippage and resistance to abrasion.

Council Publishes Directory

The approved models, along with their hundreds of trade names and private brand identification numbers, appear in a directory published by the Council. The directory and later supplement have been distributed to safety authorities, jobbers and distributors in the automotive trades, buying offices for chains and various other state and independent organizations, interested in traffic safety.

According to monthly reports of seat belts manufacturer-members of the Council, production of member companies was averaging over 500,000 seat belts per month--two-thirds of the total industry output. In 1962, ASBC members manufactured approximately 5,500,000 seat belts--67.5 percent of all belts made in the United States.

Reports from the automobile manufacturers indicate that slightly more than 15 percent of the 6.9 million cars produced in 1962 were equipped with two seat belts, either at the factory or through dealers. In all, automotive manufacturer sales of seat belts were estimated at 2,800,000 for 1962. Of this total, 80 percent or more than 1,600,000 belts were produced under the American Seat Belt Council's testing and inspection program.

In January, 1963, the American Seat Belt Council took a further step in policing the industry by announcing jointly with the National Better Business Bureau, a Code of Ethical Practices for the marketing of seat belts. This 21-point program is intended to preserve accuracy and fairness in the advertising and selling of seat belts and applies to labeling, packaging and advertising in all media and promotional or sales presentations at all levels from manufacturer to dealer.

The ASBC hopes that voluntary acceptance of the Code by all concerned will prevent erosion of public trust in the credibility of seat belt advertising and selling in which, in turn, will help speed universal acceptance of these safety devices.

The Council is also the sole industry source for funds for independent seat belt research. Each manufacturer-member of the Council, on the basis of production, contributes to a central fund and a portion of

this fund is made available in the form of grants for seat belt research. The first ASBC grant was awarded to the Institute of Transportation and Traffic Engineering, University of California, to be used in research on children's safety harnesses designed to reduce fatalities and injuries to children in auto collisions.

In May of this year, the Council announced it is cooperating with the Department of Public Health of the State of California in a research project aimed at analysis of the factors which motivate people to accept and use seat belts.

The study is being carried out by the California State Department of Public Health under a grant from the Public Health Service. According to the Council, the project's objective is the determination of the major factors which influence individuals to accept or reject seat belts, primary resistance patterns, and appeals which would be most likely to succeed.

The group to be studied will be a cross section of motorists in the Oakland area of California and one phase of the project involves the provision of free seat belts to some 1,500 purchasers of new cars. The extent to which the belts are used and the attitudes of family members will be surveyed after a 6-month period.

--Journal of the American Society of Safety Engineers, July 1963.

* * * * *

GSA SETS FEDERAL STANDARDS

The General Services Administration first published a standard for use by all Government agencies in purchasing belts for Federally owned vehicles in 1958. It was revised in January 1960 and again by Interim Amendment No. 2 (January 22, 1962).

While the GSA standard differed in many respects from the early SAE standard, the newly revised SAE standard now requires that belt assemblies be tested for a loop load of 5,000 pounds as under the GSA specification.

Both standards have set 5,000 pounds as the rated minimum tensile strength of the webbing. The GSA standard requires that the buckle release when a force of not more than 45 pounds is applied. The new SAE standard has now reduced this to 30 pounds.

While other differences exist, they are insignificant in actual practice. The GSA standards generally have been set for adult men while the SAE committee has been confronted with designing a standard suitable for use by the entire population.

--Journal of the American Society of Safety Engineers, July 1963.

* * * * *

RECLAMATION SAFETY AWARDS TO SEMINOE DAM EMPLOYEES

Region 7 Director, H. P. Dugan, presenting Charles D. Clark, Foreman, Seminoe Powerplant, with safety citation to employees at Seminoe Dam and Powerplant, Wyoming.

The regional citation was awarded to the group on June 11, 1963, for having worked 3,000 consecutive days without sustaining a lost-time accident. Each employee received a wallet-sized citation and a token cash award.

While commenting on the outstanding record of the Seminoe employees for working nearly 8-1/2 years without a disabling injury, Mr. Dugan emphasized the pride with which the Bureau points to such outstanding safety achievements. He stated that in addition to routine operations, Seminoe is a "training center" for hydroelectric powerplant operations, which emphasizes this safety record as being truly a group effort.

FROM THE FIELD

North Platte River Projects. The films "A Breath in Time" on First Aid and "Case of the Cluttered Corner," on the prevention of falls, were shown throughout the projects to 168 Bureau employees in connection with their safety meetings.

John E. Larsen, Bureau of Mines, examined 26 employees from the Power O&M Division for their proficiency in First Aid. Each employee was issued a certificate showing that they had successfully completed the course. The Project Manager gave each a letter of commendation.

Region 1. Seventy-eight employees within the Region completed Bureau of Mines First-Aid course during the month. Indications are that three more project offices will receive Bureau of Mines citation for 100 percent First-Aid trained employees.

San Juan-Chama Project. In addition to the monthly supervisors' safety meeting, an evening session was held for all survey personnel by the Chief of Surveys to supplement the 5-minute toolbox meetings conducted during June.

Norman Project. It was suggested that a Bureau and Contractor representative make a joint and periodic safety survey of the jobsite. This will formally be carried out in the future.

Tracy Field Division. All crank hooks, lifting devices, and trailer hitches have been tested for defects by magnifluxing. One trailer hitch in Los Banos had a small fracture in a welded area and will not be used until it is repaired.

Navajo Indian Irrigation Project. Our work is extending into the Navajo Reservation which means employees will be traveling over poor roads. Drivers were alerted to hazardous conditions resulting from sandy areas and the possibility of flash floods making some roads impassable.

Snake River Development Office. The land classification crews are using a power auger in their work. They have been instructed in its use and in the necessary safety precautions by their supervisor.

Emery County Project. A preconstruction meeting was held at the Project Office on June 24 with the contractor on Joes Valley Dam. "Safety Requirements for Construction by Contract," Third Edition, was discussed. Also outlined was reporting procedure, first-aid requirements, sanitation, use and storage of explosives and safety provisions for the protection of the public.

Kansas River Projects. Action has been taken by the Irrigation Division to install metal guideposts near the top of inclines on canal service roads of operating irrigation systems under Bureau control. Also, chain-link fencing and appropriate warning signs will soon be placed at the Red Willow Diversion Dam.

Boulder Canyon Project. A safety film on the benefits to be obtained from wearing safety shoes was shown to project employees on June 11. Tentative arrangements have been made with one of the Operating Agents (city of Los Angeles, Department of Water and Power) for a safety shoe truck display to visit the Project in the near future.

Fryingpan-Arkansas Project. Approximately 55 employees have completed innoculations for Rocky Mountain Spotted Fever.

Durango Projects Office. Various innovations have been added at Lemon Dam to aid in traffic control especially during the night hours. Reflector posts have been placed at strategic places along the haul roads and caution blinker lights are installed in areas of converging traffic. Motor patrols were equipped with flashing blue lights.

Columbia Basin Project. There was no fire loss reported during June. Routine fire inspections and drills were conducted at various project locations. The Project Fire Chief conducted an afternoon training session in the use of portable fire extinguishers for Ephrata Headquarters Office personnel with 25 in attendance. The Ephrata City Fire Inspector and Assistant Fire Chief were also in attendance.

Special safety indoctrination meetings were held for the part-time summer employees. A majority of these are men in their late teens or early twenties with little previous field experience.

Glen Canyon Unit. Merritt-Chapman and Scott Corporation held a safety award dinner for 16 truck drivers in recognition of their safe driving records on the aggregate haul road. These employees drove 1,400,000 miles without a disabling injury at speeds of 50 miles per hour, with tandem trailers carrying 70-ton loads.

Seventeen members of the Ogden-Salt Lake area chapter of the Federal Safety Council held a scheduled monthly meeting in Page, Arizona, May 25. The safety program in effect on the Glen Canyon Unit was discussed and following the regular meeting the members were taken on a tour of the dam.

Red Bluff Office. Vinnell Corporation, contractors for Red Bluff Diversion Dam, have worked 553 days for a total of 173,365 man-hours without a disabling injury.

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication "Safety Requirements for Construction by Contract," Third Edition, September 1962.

MACHINERY AND MECHANIZED EQUIPMENT

1. Should the need arise for man hoists, material hoists, or passenger construction elevators, they shall be constructed, maintained and operated in keeping with the safety handbook and references contained therein. T F

2. Exposure during pile-driving operations shall be held to an absolute minimum. Other members of the crew not required at the point of operation shall remain a distance of 1-1/2 times the length of the pile from actual operations. T F

3. Hanging or swinging piledriver leads shall be provided with a fixed ladder. No one shall remain on the ladder or the leads while a pile is being driven. T F

4. When moving pile-driving leads, it is not necessary to lower the hammer. T F

5. Tag lines are not required in the handling of piles. T F

6. Sheet piling shall be pulled by use of a pneumatic ejector. T F

7. Sawdust, chips, shavings, etc., shall be removed from woodworking shops at least daily. T F

8. Each woodworking machine shall be provided with a power control located within reach of the operator. T F

9. All power saws may be used without guards providing only approved personnel are permitted to operate them. T F

10. The driver of a truck, or other earth hauling rig, need not leave the driver's position while the rig is being loaded by crane if a protective steel hood is provided. T F

11. Safety glass is not required in the doors and windows of construction vehicles. T F

12. All motor vehicles shall at all times be operated at a safe speed, taking into account prevailing conditions. T F

13. Vehicles parked on a hill or grade shall be left in gear and the front wheels cut to control the roll. T F

14. Employees shall not be permitted between a towed and towing vehicle, or other equipment, until both pieces have been stopped and secured against movement. T F

15. The Interstate Commerce Commission regulations shall apply to operators of all vehicles transporting personnel, explosives, flammables or toxic substances. Full stops shall be made at all railroad grade crossings except where a flagman or automatic signal is provided or at streetcar track crossings in town. T F

16. No explosives, flammable materials, or toxic substances shall be transported in vehicles while carrying personnel. Such man-haul vehicle shall not be refueled while passengers are on board. T F

For answers refer to page 26.

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DEPARTMENT OF THE INTERIOR
1962 ANNUAL FLEET SAFETY AWARD

The Bureau of Reclamation has received the Department of the Interior Annual Fleet Safety Award for 1962. The award is presented to the Bureau or office in the Department achieving the best motor vehicle safety record during the year. The Bureau has previously won this recognition in 1959 and 1960.

Our vehicle accident rate in 1962 was 3.4 per 1,000,000 miles as compared with the 1961 rate of 4.6, a significant reduction.

Since this is a Bureau-wide award, it is our custom to present it for display to the region having the best motor vehicle safety record during the year covered by the award. In recognition of Region 1's fine record of only 1.7 accidents per 1,000,000 miles, the award certificate has been forwarded to the Boise Regional Office.

* * * * *

PUBLIC DROWNINGS

January 1 - June 30, 1963

1. At Facilities Controlled and Operated by Bureau of Reclamation

Canals	6
Dams	1
Total	7

2. At Facilities Operated by Other Agencies

Irrigation and Water Districts	10
State or County (Recreational)	12
Total	22

3. Summary of Total Drownings During Period

A. By Operating Agency

Bureau of Reclamation	7
Irrigation and Water Districts	10
State or County (Recreational)	12
Total	29

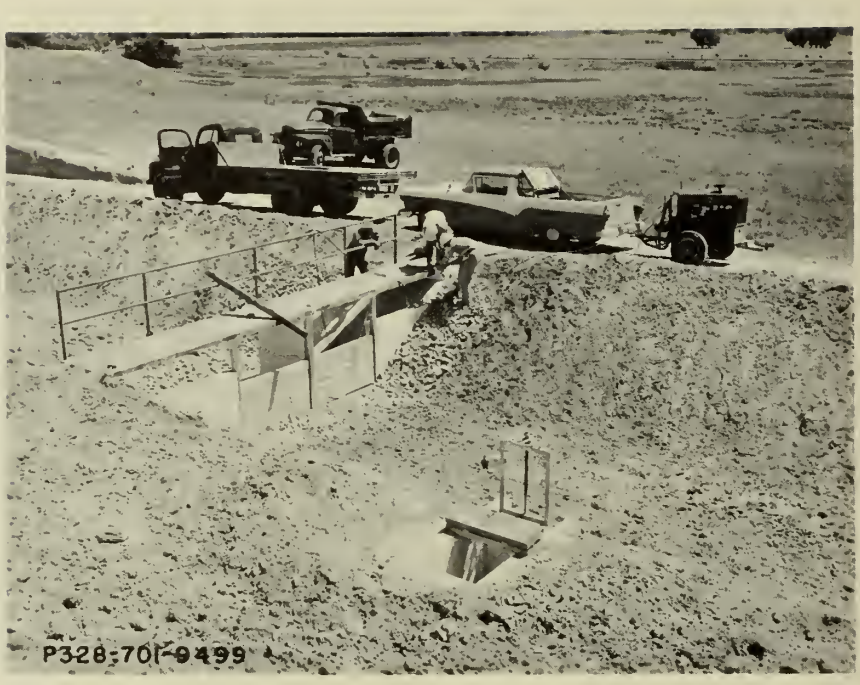
B. By Type of Facility

Canals	15
Reservoirs	11
Dams	3
Total	29

C. By Nature of Drownings

Swimming	5
Boating	0
Fishing	8
Fell into Canal	5
Other	11
Total	29

Frenchman-Cambridge Division--MRBP. Inlet transition for 54-inch precast-concrete-pipe siphon. Note safety trashrack and railing. P-328-701-9498.



Frenchman-Cambridge Division--MRBP. Check structure showing handrail and walkway planking. P-328-701-9499.

Frenchman-Cambridge Division--MRBP. Cedar Bluff Main Canal and laterals. Handrail, walkway and 15-inch pipe inlet with movable weir. P-372-701-765.

WATER SAFETY

A news release of May 17, 1963, published remarks made by Assistant Commissioner W. I. Palmer before the Water Resources Conference, American Society of Civil Engineers, Milwaukee, Wisconsin. For those who did not get to read the article, we are printing excerpts concerning safety.

In outlining some of the major problems faced in construction and administration of water recreation areas, Assistant Commissioner Palmer had this to say about water safety:

> "Increasing recreational use of our reservoirs and canals has resulted in an increasing number of accidents and fatalities. We have and are emphasizing safety measures at all levels of our organization, and are eliciting the cooperation of user organizations, the Red Cross, and State and local governments. This is a major problem that will always be with us and one that defies solution by engineering means alone."

In expressing unofficial recommendations or plans, he made the following statement:

> "We need an accelerated program of public information and education on the overwhelming necessity for improved sanitation and water safety practices at all our waterways and recreation areas. The American Red Cross and the Bureau of Reclamation are cooperating in an expanded water safety program to reduce the number of drownings and accidents on waterways in the West. This is our 'Operation Westwide,' an expansion of the educational program carried out at eight Reclamation areas. This program includes classes in swimming and lifesaving, demonstrations and talks before civic and school groups, motion pictures, lifesaving contests, and recognition through all available information media.
>
> "This type of widespread and sustained effort in all communities is necessary to make inroads on the appalling loss of life."

--Safety Bulletin, Region 5

Region 1. During the past month we have organized two more community water Safety Councils; one in the Burley-Rupert area, taking in Minidoka Reservoir, and the other at American Falls. Both organizations, following the initial meeting, held a second meeting and elected permanent officers and appointed committee chairmen. We recognize the very fine efforts of Project Superintendent H. R. Gray and Safety Officer Martin in laying the groundwork and arousing the interest and enthusiasm of the community leaders. With state, county and city officials actively running these two Water Safety Councils, there is no question as to their permanency. This makes three new councils in Region 1 for 1963. Idaho Falls and Vale, Oregon, will be completed by late July.

CANAL SWIMMERS SENTENCED HERE

Canal swimmers beware--your days are numbered. A crackdown on illegal swimming in canals has begun in Yuma (Arizona) with the first offenders getting arrested yesterday.

City Magistrate Linwood Perkins this morning sentenced three youths, ranging in age from 16 to 17, to 5 days in jail or pay a $25 fine each for swimming in the West Main Canal near Magnolia Avenue.

It was reported that the trio has decided to pay the fine.

--The Sun, June 5, 1963

START OPERATION "WATERPROOF"

One of the best ways to decrease the 6,500 drownings we have each year in this country is to do more to help everyone to learn to swim well and to take care of themselves in the water in an emergency. Operation Waterproof 4th Grade helps to accomplish this.

Waterproofing is defined as a process designed to help make an individual safe while in, on, or about the water. Therefore, the object of the waterproofing effort is to make sure that every fourth grader throughout the country has taken advantage of opportunities

to receive instruction in water safety especially planned to make them safe in an aquatic environment.

To teach a youngster how to swim without an appreciation for some of the basic safety factors related to an aquatic environment is comparable to teaching a person to drive without teaching him the rules of the road. Therefore, in the interest of maximum safety, the scope of operation waterproof 4th grade included activities designed to develop positive attitudes toward safety. In addition to a survey to discover the children who do not know how to swim and making arrangements for these children to be taught, the operation also includes a series of discussions related to the principle of water safety and a demonstration of some of the more common rescue and self-rescue skills.

Operation Waterproof was conducted by the Recreation and Park Department on June 4, at the high school pool and at that time it was discovered 38 out of 116 tested could not swim across the pool and back. Since that time, 21 of those children have entered the learn to swim classes.

These tests were conducted by the Recreation and Park Department in cooperation with the American Red Cross and the Bureau of Reclamation Water Safety program.

--The Needles Desert Star, June 27, 1963

WATER SAFETY PROGRAM ORGANIZED IN NEEDLES

James P. Jones was elected temporary chairman of the Needles Operation Westwide, a water safety program being jointly sponsored by the American Red Cross and the Bureau of Reclamation throughout the Western United States, at a meeting held June 27 at the City Hall.

A water safety pamphlet submitted by Deputy Sheriff Charles Granotte of the Search and Rescue Unit was adopted by the group and will be produced for distribution at Colorado River resorts to remind local residents and the many visitors of the dangers of unsafe swimming and boating practices.

Considerable discussion was devoted to the need for an educational program that will make those who enjoy water sports accept the

necessary rules and regulations prompted by courtesy and common sense, which, if generally practiced, will preclude the necessity of more control by legislation.

Increased use of the Colorado River and its lakes makes increased caution mandatory on the part of all, it was pointed out.

Pete Jewell, Speed and Ski Club, was elected vice-chairman and Dr. Dale M. Harter, district superintendent of schools, was made education chairman. Other appointments will be made shortly.

George Grant, president of the Needles Chamber of Commerce and operator of Rainbow Beach, promised the full support of the chamber. He said he felt this water safety program was a part of the promotion of the area and that the Chamber of Commerce would back it 100 percent.

In the discussion of Operation Westwide, it was brought out that while both the Bureau of Reclamation and the Red Cross are sponsoring the organization, it is a separate entity and that in order to succeed it must have the full support of the community.

Courtney Boom told of the Red Cross equipped Search and Rescue units including jeeps and boats manned by men who have completed Red Cross first-aid training. It was the consensus of the group that instead of resentment of the Coast Guard, those who wish to enjoy water sports should accept the fact that the rules set down covering equipment and forbidding overloading of boats may very well prevent a holiday from becoming a tragedy.

--The Sun, July 2, 1963

Red Bluff Office. A discussion was held on the water safety program relating to the east portion of the Red Bluff Diversion Dam, for boat passage through the Dam. Construction Engineer Alexander stated, "We have received the necessary navigation information for the Regional Office in accordance with the California Waterway Marker System." He asked full cooperation and support from Supervisory Personnel and Safety Officer to work with the contractor in carrying out the water safety program.

* * * * *

SAFETY FILM

One copy of a film entitled "The Sixth Wheel"--16-millimeter sound, color--with running time of 27 minutes has been placed in the Denver Film Library. This is a motor vehicle safety film that uses a positive approach to persuade drivers to accept their responsibilities for safe driving. Requests for loan use of the film should be addressed to the Denver Office, Code D-841.

* * * * *

ANSWERS TO SAFETY QUIZ

1.	*9-(61-90)	T	9.	9-(107-110)	F
2.	9-91	T	10.	9-122	T
3.	9-95	T	11.	9-129	F
4.	9-99	F	12.	9-137	T
5.	9-101	F	13.	9-140	T
6.	9-103	T	14.	9-142	T
7.	9-105	T	15.	9-144	T
8.	9-106	T	16.	9-152	T

*( )Refers to appropriate paragraph of "Safety Requirements for Construction by Contract, Third Edition."

* * * * *

EFFECTIVE PRECONSTRUCTION SAFETY CONFERENCES

Presented by R. A. Breckenridge, Regional Safety Engineer, Region 2, at Regional Safety Engineers' Conference and Safety Workshop, Denver, Colorado, February 18 through 21, 1963.

The following is quoted from the first paragraph of the Foreword of "Safety Requirements for Construction by Contract, Third Edition, September 1962":

> "The Bureau of Reclamation has an obligation to provide for the safety of the men and women engaged in the construction of Reclamation facilities financed by public funds. In the administration of construction contracts, we are attempting to meet this obligation by placing equal emphasis upon the quality of the product, its timely completion, and upon performance of the work in a safe manner."

To fulfill the obligation of performance of work in a safe manner, we must clearly establish with the contractor a criteria of safe practices and techniques which, when properly and effectively applied, will make money for the contractor, extend the value of the appropriated dollar, and most of all, preserve human life. Now, the Bureau of Reclamation depends almost entirely upon the contractors to construct facilities that we design and develop; therefore, we must work "hand and glove" with them to "get the most for the least." We don't want to manage their business for them but certainly when their safety practices and techniques reduce the quality of work, destroy property, and cause human suffering, then it's time we step in with positive, effective, and aggressive measures commensurate with the Bureau of Reclamation's high standards of design, their noted ability to perform, and their sacred public trust.

With this introduction, I am convinced that the most important contact with the contractor on safe performance is before the work starts, and at the time when he is "tender" to acceptable safety practices. It is with much forethought and experience that the Preconstruction Safety Meeting has become the most important tool of the Project head in administering a safety program. Yet we know, in some cases, Project heads disregard this meeting only to reap the benefits of a poor contractor safety record later. Or they group this meeting casually in with some other aspect of contract administration, probably the Preconstruction Meeting, and as a result, safety is lost in the maze of administration proceedings or diluted until safety hardly muddies the waters.

The Preconstruction Safety Meeting

The Preconstruction Safety Meeting is a meeting with the representatives of the prime contractor and the contracting officers or authorized representatives, prior to start of construction for the purpose of discussing safety standards and requirements applicable to the work under construction (S. R. C. C. Section 2-2 and Paragraph 10 of Bureau Specifications).

As this statement is quite general, I would like to restate it in more detailed and dynamic terms as follows: The Preconstruction Safety Meeting is a separate and distinct meeting prior to the start of construction in which the contracting officer or his authorized representatives (Project head or Construction Engineer) meet with the contractor's authorized representative (General Superintendent, Project Manager) and with their subcontractors for the purposes of orienting the contractor in safety performance standards and safety requirements applicable to the work under the contract. Time, date, and place of this meeting should be by mutual agreement. Facilities where the meeting is held should be well lighted, ventilated, comfortable, etc.

Who shall attend the meeting?

We have already mentioned the Project representatives of both the contractor and the Bureau. I would like to suggest we have the Chief Inspector of the Bureau, the State Safety Representative, and the contractor's insurance carrier present. I don't recommend that the meeting be too large, but we should have the important people connected with contractor safety present. The people who can take action on safety matters when these matters need action.

Extra copies of the S. R. C. C. should be available at the meeting so none of the contractor's supervisory personnel, including foremen, are without a copy.

The Project Safety Officer should be the prime mover to see that this meeting is held and that a record of its proceedings is furnished both the contractor and key Project personnel who administer the construction program.

Prior to the meeting, the contractor should have presented to the Project head his safety program as required in the S. R. C. C. Section 2-1. This will give Bureau Project officials time to review the contractor's program for adequacy and compliancy with the requirements of the Specifications and detailed in S. R. C. C.

The Safety Officer for the Bureau shall have prepared an Agenda for the meeting from the pertinent requirements of the S. R. C. C., the Reclamation Instructions, the Specifications, and other applicable safety regulations.

Also prior to the safety meeting, there are a few things the contracting officer should know about the contractor's safety.

1. What is his past safety record.
2. Have the contractor's representatives been sent copies of the S. R. C. C.
3. What general regulations are applicable to the job.
4. What special regulations are applicable to the job.
5. Is he a reputable contractor, a combine, or joint venture.
6. What is his attitude on safety.
7. Does he give "lip service" instead of action.
8. Miscellaneous.

What should happen at the Preconstruction Safety Meeting?

I would say, in general, the objective is to marry the contractor's and the Bureau's safety program so that they become one with a common objective.

Now, since the two programs shall in essence be one in the final analysis, the Agenda prepared by the Safety Engineer prior to the meeting should be in question form. The contractor's response should be in the form of a positive on adequate safety programs as determined by review at the meeting. If it isn't adequate, it should be revised by the contractor and returned immediately to the contracting officer for approval.

The agenda for the meeting should contain the following general outline:

Contractor Safety Program

General statement on the company's policy on safety.

Safety program should include the following provisions or topics:

I. Management Safety Administration

   A. Supervisory Responsibility
   B. Foreman Responsibility
   C. Employee Responsibility
   D. Safety Officer

E. Inspection and Engineering
F. Response to S. R. C. C.
G. Enforcement (S. R. C. C. Section 3-3)
H. Relation to Subcontractors

II. Safety Meetings and Committees

A. Tool Box Meetings--weekly (S. R. C. C. Section 2-5)
B. Supervisory Safety Meetings--monthly
C. Joint Policy Safety Committee--monthly (S. R. C. C. Section 2-3)
D. Special Meetings (Fatalities, emergency, special promotion)

III. Education

A. Supervisor's First Aid Training
Who, what source certifying, when--(S. R. C. C. Section 2-7)
B. Employee Indoctrination and Instruction (S. R. C. C. Section 3)
C. Safe Operations of Tools and Power Equipment
1. What and how instructed (S. R. C. C. Section 10)
2. What and how instructed on handling and storage of materials and supplies (S. R. C. C. Sections 11, 12, 15, 16)
D. Safety Posters, Signs, Handouts
1. NCS, State, Insurance Carrier, and Company
2. Large Accident Posters and Signs

IV. First Aid and Medical Facilities (S. R. C. C. Section 4)

A. First Aid Kits and Stations
B. Medical Care--Physician, Hospital, Ambulance
C. First Aid Training

V. Health and Sanitation Requirements (S. R. C. C. Section 6)

Toilet facilities, drinking water, change houses, rodent control, etc.

VI. Protective Clothing and Equipment (S. R. C. C. Section 7)

Hard hat, respirators, face shields, etc.

VII. Fire Prevention and Protection (S. R. C. C. Section 13)

A. Prevention
   1. Housekeeping
   2. Education
   3. Watchmen
B. Protection
   1. Hydrants
   2. Portable fire extinguishers, etc.
   3. Local fire departments

VIII. Machinery and Mechanized Equipment (S. R. C. C. Section 9)

A. Cranes
B. Dozers
C. Motor Vehicles
D. Etc.

IX. Traffic Signs and Barricades (S. R. C. C. Section 13)

A. Construction Traffic
   1. Employee parking
   2. Haul roads, safe road loads, etc.
   3. Traffic control on road crossings, access road, etc.
   4. Special situations
B. Public Traffic
   1. Suitable signs on construction
   2. Suitable signs on detours
   3. Flagman
C. Protection of Public
   1. No visitors area signs
   2. Safe visitor area
   3. Good housekeeping

X. Accident Reporting (S. R. C. C. Section 2-8)

A. Lost Time Accident Reports
B. First Aid or Disabling
C. Monthly Summary of Accident 7-125
D. Serious Accident Reporting
E. Board of Inquiry

XI. State and Local Agencies

Miscellaneous

XII. Housekeeping

A. Responsibilities
B. Importance

XIII. Miscellaneous Other Features to be Added Depending on Features to be Constructed

A. Lighting
B. Excavation Operations
C. Concrete Operations
D. Structural Steel Erection
E. Painting and Tar Product Operations
F. Transmission Line Construction
G. Stage Construction in Energized Substations
H. Diving Operations
I. Welding Operations
J. Boilers and Unfired Pressure Vessels

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OFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH June 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	245	39,200	245,792							0.0	0.0		0	0
Denver Office	1,463	234,080	1,450,728		1			7		0.7	0.7		5	20
Alaska District	38	5,494	33,686							0.0	0.0		0	0
REGION 1														
Boise Regional Office	175	23,818	154,904							0.0	0.0		0	0
Central Snake Projects	48	6,976	40,634		1			10		24.6	22.4		246	22
Chief Joseph Dam Project	36	7,563	41,060							0.0	0.0		0	0
Coeur d'Alene Project	18	3,064	16,816							0.0	0.0		0	0
Columbia Basin Project	872	139,520	879,456	1	3		5	15	7.2	3.4	10.2	36	17	42
Hungry Horse Project	51	8,838	53,031							0.0	18.1		0	362
Lower Columbia Development	46	6,121	34,784							0.0	0.0		0	0
Minidoka Project	153	25,695	138,740	1	1		3	3	38.9	7.2	20.5	117	22	75
Rogue Project			4,530							0.0	0.0		0	0
Snake River Development	46	6,736	41,057							0.0	23.5		0	14,092
The Dalles Project	36	5,557	33,783							0.0	0.0		0	0
Upper Columbia Development	41	5,898	38,582		2			10		51.8	0.0		259	0
Vale Project	21	2,870	19,567							0.0	0.0		0	0
Yakima Project	30	4,320	26,459		1			4		37.8	38.2		151	115
Totals and Averages	1,573	246,976	1,523,403	2	8		8	42	8.1	5.2	10.4	32	28	439
REGION 2														
Sacramento Regional Office	607	97,120	599,472		1			90		1.7	6.6		150	23
Folsom Field Division	61	9,704	62,574							0.0	0.0		0	0
Fresno Field Division	151	24,160	149,343							0.0	12.9		0	181
Shasta Field Division	118	18,930	114,341				19	19		0.0	8.4	1,001	165	805
Tracy Field Division	185	30,550	188,145	2	2		64	64	65.5	10.6	16.1	2,095	340	494
Distribution System Projects			6,432							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	27	4,320	32,780							0.0	0.0		0	0
Lahontan Basin Project	28	4,480	26,200							0.0	0.0		0	0
Red Bluff Office	122	19,520	114,928		1	1		6,000		8.7	0.0		52,207	0
San Luis Unit	465	78,120	375,796		4			64		10.6	0.0		170	0
Trinity River Division	186	29,760	204,932	1	3		19	38	33.6	14.6	0.0	638	185	0
Willows Field Office	27	4,320	14,864							0.0	--		0	--
Totals and Averages	1,977	321,034	1,907,447	3	11	1	102	6,275	9.3	5.8	5.4	318	3,290	124
REGION 3														
Boulder Regional Office	157	25,120	138,240							0.0	0.0		0	0
Boulder City Development	14	2,240	10,824							0.0	—		0	--
Boulder Canyon Project	154	25,280	157,756		2			53		12.7	18.3		336	542
Colorado River FW&LS	78	13,112	75,118	1	2		4	8	76.3	26.6	28.1	305	106	98
Parker-Davis Project	300	54,248	279,249		1			11		3.6	3.6		39	14
Phoenix Development	116	21,974	108,654		2			169		18.4	18.3		1,555	18
Southern California Development	21	3,302	12,709							0.0	--		0	--
Yuma Projects	185	29,816	148,345							0.0	7.4		0	30
Totals and Averages	1,025	175,092	930,895	1	7		4	241	5.7	7.5	9.6	23	259	126
REGION 4														
Salt Lake Regional Office	319	50,236	344,021							0.0	0.0		0	0
Emery County Project	39	6,452	37,954							0.0	0.0		0	0
Central Utah Projects	136	20,963	130,403	1	1		20	20	47.7	7.7	18.9	954	153	1,464
Curecanti Unit	95	14,618	89,607							0.0	14.3		0	85,728
Flaming Gorge Unit	151	16,293	130,530							0.0	0.0		0	0
Glen Canyon Unit	352	64,072	366,110					14		2.7	8.8		38	2,305
Navajo Unit			8,603							0.0	0.0		0	0
Power Operations Office	7	1,080	2,263	4						0.0	--		0	--
Transmission System Office	76	12,480	79,942		1	4		12	4	12.5	0.0		150	0
Durango Projects	84	13,908	83,306	4					4	0.0	10.7	4	0	86
Grand Junction Projects	91	14,104	92,260	1	1		4	4	70.9	10.8	14.7	284	43	581
Logan Development	15	2,280	13,980		4	4	4	4	4	0.0	0.0	4	0	0
Seedskadee Project	70	13,507	72,652	4				4	4	0.0	11.8		0	529
Upper Green River Project	19	3,720	18,720							0.0	0.0		0	0
Weber Basin Project	225	36,000	213,604	4						0.0	0.0		0	0
Totals and Averages	1,690	269,713	1,683,955	2	4		24	50	7.4	2.4	6.3	89	30	4,110
			4	4								4		4
REGION 5		4			4		4		4					4
Amarillo Regional Office	114	18,240	117,464							0.0	0.0		0	0
Albuquerque Development	7	5,789	33,263							0.0	0.0		0	0
Austin Development	70	9,660	69,647	4	4			4	4	0.0	0.0	4	0	0
Canadian River Project	155	25,636	152,268							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	45	7,400	53,800	4						0.0	0.0		0	0
Middle Rio Grand Project	221	36,006	225,493	4	3	4		22	4	13.3	14.3	4	98	129
Navajo Indian Irrigation Project	55	8,280	38,672		1			2		25.8	--		52	--
Norman Project	83	12,751	75,768							0.0	0.0		0	0
Oklahoma City Development	31	4,203	28,547							0.0	0.0		0	0
Rio Grande Project	285	48,998	281,600		1			7		3.5	13.4		25	80
San Angelo Project	10	1,456	36,138							0.0	21.1		0	1,044
San Juan-Chama Project	61	9,350	25,542							0.0	--		0	--
Wichita Project	62	11,862	63,879							0.0	28.2		0	28
Totals and Averages	1,229	199,631	1,202,081		5			31		4.1	9.4		26	136
REGION 6														
Billings Regional Office	254	41,108	230,210								0.0			0
Canyon Ferry Project	21	3,084	18,278	4	4	4		18	4	54.7	0.0	4	985	0
East Bench Project	77	10,638	67,400							0.0	0.0		0	0
Fort Peck Project	38	7,324	35,091					11		28.5	0.0		113	0
Missouri-Oahe Projects	274	43,840	261,676	4		4	13	54	22.8	7.6	7.9	297	206	960
Missouri-Souris Projects	123	24,125	126,034		2			12	4	15.9	7.7		95	46
Power System Operations	40	6,400	41,760	4						0.0	0.0		0	0
Riverton Project	32	4,868	29,865							0.0	0.0		0	0
Upper Missouri Projects	86	12,709	81,454							0.0	30.5		0	235
Yellowtail Project	132	19,704	108,903							0.0	0.0		0	0
Totals and Averages	1,077	173,800	1,000,671	1	6		13	95	5.8	6.0	6.1	75	95	281
(Continued next page)														
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

* FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH June 30, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	176	28,160	173,376							0.0	0.0		0	0
Denver Development	32	5,072	29,152							0.0	0.0		0	0
Fryingpan-Arkansas Project	82	13,536	52,029		1			400		19.2	--		7,688	--
Kansas River Projects	351	56,160	333,976							0.0	3.0		0	24
Niobrara-Lower Platte Projects	291	46,560	286,720		1			6		3.5	0.0		21	0
North Platte River Projects	310	74,400	313,601		1			17		3.2	0.0		54	0
South Platte River Projects	177	28,320	168,584		1			9		5.9	5.7		53	80
Totals and Averages	1,419	252,208	1,357,638		4			432		2.9	1.5		318	17
CONSOLIDATED TOTALS*	11,736	1,917,228	11,336,296	9	46	1	151	7,173	4.7	4.1	5.8	79	633	775
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH June 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	10	779	12,382							0.0	0.0		0	0
Columbia Basin Project	132	12,202	112,842							0.0	7.7		0	23
Coeur d'Alene Project	33	5,224	30,574							0.0	--		0	--
Minidoka Project			967							0.0	0.0		0	0
Rogue Project			8,473							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	56	9,866	46,965							0.0	--		0	--
Vale Project	13	814	56,142							0.0	0.0		0	0
Hungry Horse Project	8	200	200							0.0	--		0	--
Yakima Project	19	1,300	11,493							0.0	0.0		0	0
Totals and Averages	271	30,385	280,026							0.0	4.2		0	13
REGION 2														
Distribution System Projects			18,390		2			15		108.8	44.8		816	1,109
El Dorado Distribution			11,399							0.0	74.8		0	1,028
Fresno Field Division			8,711		2	1		6,021		229.6	--		691,195	--
Klamath Project			1,590							0.0	0.0		0	0
Red Bluff Office	136	21,760	138,584	1	1		21	21	46.0	7.2	0.0	965	152	0
San Luis Unit	650	132,965	366,628	1	7		4	210	7.5	19.1	0.0	30	573	0
Tracy Field Division			7,415							0.0	0.0		0	0
Trinity River Division	189	28,463	285,567		11			6,135		38.5	44.1		21,484	734
Totals and Averages	975	183,188	838,284	2	23	1	25	12,402	10.9	27.4	42.1	136	14,794	724
REGION 3														
Colorado River FW&LS	31	5,831	14,686							0.0	0.0		0	0
Parker-Davis Project	85	16,631	54,477		2			95		36.7	0.0		1,744	0
Phoenix Development	10	200	2,500							0.0	--		0	--
Yuma Projects	6	396	1,724							0.0	22.3		0	584
Totals and Averages	132	23,058	73,387		2			95		27.3	18.8		1,294	490
REGION 4														
Central Utah Projects	7	896	8,407							0.0	56.5		0	1,891
Curecanti Unit	379	67,639	316,469	1	7		6	164	14.8	22.1	10.2	89	518	61
Flaming Gorge Unit	673	112,381	502,845	4	12	2	438	12,676	35.6	23.9	8.8	3,897	25,209	9,069
Glen Canyon Unit	1,315	241,198	1,697,223	6	25	1	6,163	6,597	24.9	14.7	20.0	25,552	3,887	956
Navajo Unit			32,081							0.0	16.2		0	583
Emery County Project	17	1,880	2,145							0.0	0.0		0	0
Florida Division	232	45,957	116,033	1	2		56	101	21.8	17.2	42.6	1,219	870	1,059
Grand Junction Projects	6	1,440	11,292							0.0	19.5		0	221
Seedskadee Project	364	72,430	286,148		1			90		2.5	16.3		315	392
Weber Basin Projects	777	51,664	258,000	1	4		12	34	19.3	15.5	48.0	232	132	48,468
Totals and Averages	3,370	595,485	3,230,643	13	51	3	6,675	19,662	21.8	15.8	19.4	11,209	6,086	4,248
REGION 5														
Amarillo Regional Office	34	1,224	8,177							0.0	0.0		0	0
Austin Development			1,233							0.0	--		0	--
Canadian River Project	381	44,183	433,776		2			25		4.6	50.9		58	927
Lower Rio Grande Rehabilitation	20	2,655	80,718							0.0	17.4		0	17
Norman Project	125	22,321	96,407							0.0	--		0	--
Oklahoma City Development	6	686	2,471							0.0	--		0	--
Rio Grande Project	2	320	7,249							0.0	--		0	--
San Angelo Project			50,889							0.0	25.1		0	469
Wichita Project	169	29,921	150,647							0.0	0.0		0	0
Totals and Averages	737	100,910	831,557		2			25		2.4	29.6		30	418
REGION 6														
East Bench Project	297	38,370	154,420	1	9		35	83	26.1	58.3	58.0	912	537	710
Missouri-Oahe Projects	148	16,906	65,356		2			18		30.6	19.6		275	46
Missouri-Souris Projects	163	17,510	75,134		1			5		13.3	51.2		67	3,837
Riverton Project			9,999							0.0	0.0		0	0
Upper Missouri Projects	13	1,856	9,245		1			3		108.2	0.0		325	0
Yellowtail Project	669	118,127	474,863		4	4		24,000		8.4	13.2		50,541	684
Totals and Averages	1,290	192,769	789,017	1	17	4	35	24,109	5.2	21.5	24.8	182	30,556	708
REGION 7														
Kansas River Projects	353	68,185	266,983	1	1		200	200	14.7	3.7	8.0	2,933	749	961
Niobrara-Lower Platte Projects	513	99,312	313,881		2			5		6.4	11.6		16	49
North Platte River Projects	20	2,570	7,742							0.0	97.0		0	1,163
South Platte River Projects	5	790	3,312							0.0	0.0		0	0
Pryingpan-Arkansas Project	6	1,226	1,226							0.0	--		0	--
Totals and Averages	897	172,083	593,149	1	3		200	205	5.8	5.0	11.5	1,162	346	442
CONSOLIDATED TOTALS	7,672	1,297,878	6,636,063	17	98	8	6,935	56,498	13.1	14.8	26.7	5,343	8,514	5,666
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

* FATALITIES INCLUDED IN TOTAL DISABLING

SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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July 1963

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TABLES

Safety Performance Record

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Front Cover Photo: Flaming Gorge Unit - Recreation. Water skiing in reservoir being created by Flaming Gorge Dam. Reclamation photo P591-421-4871.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
(January 1 - July 31, 1963)

A. GOVERNMENT FORCES

Region	Frequency rate	Severity rate	Injury* index	Vehicle accident rate
Alaska District	0.0	0	0.0	0.0
Region 7	2.5	268	6.7	3.7
Region 4	3.0	42	1.3	3.6
Region 1	5.0	42	2.1	1.2
Region 5	5.7	34	1.9	5.2
Region 6	5.9	5,141	303.3	3.0
Region 3	6.4	249	15.9	5.1
Region 2	7.1	2,851	202.4	6.0
Totals to Date	4.4	1,006	44.3	4.0
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	5.0	52	0
Region 7	6.5	293	0
Region 4	17.7	9,899	6
Region 6	21.9	24,142	4
Region 2	22.4	12,102	1
Region 3	24.6	1,167	0
Totals to Date	15.6	9,356	11
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to date: July 31, 1963

A. ACCIDENT CLASSIFICATION

Type	Description	No.	Days lost
2	Aircraft	1	6,000
5	Vehicles	3	6,204
7	Explosions	1	6
9	Electricity	3	27
12	Handling Material	17	750
13	Falling Objects	2	17
14	Falls of Persons	10	68
15	Jumping to Places	2	5
17	Flying Particles	3	37
18	Hand Tools	5	48
19	Machinery	3	138
20	Not otherwise classified	9	156
	Totals	59	13,456

B. OPERATIONAL SUMMARY

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	3,189,381	2	13	0.6	4
Construction	3,425,252	15	6,195	4.4	1,809
Design	1,409,415	2	11	1.4	8
Investigation	1,683,783	15	870	8.9	517
O&M-Irrigation	1,611,696	14	214	8.7	133
O&M-Power	2,051,818	11	6,153	5.4	2,999
Totals	13,371,345	59	13,456	4.4	1,006

C. SERIOUS ACCIDENTS (Personal Injury)

Date	Occupation	Description of accident	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000

ACCIDENT REVIEW

SCRAPER COLLISION

Employer: Contractor
Activity: Hauling fill material.
Accident Situation and Occurrence: A loaded scraper was proceeding along the haul road and an empty scraper was returning to the cut area. The operations required the empty scraper to cross the haul road on the way to the loading area. While on the haul road the two scrapers collided head on and the empty scraper was knocked over on its side. The operators were not injured; both men had their seat belts fastened. The scrapers were extensively damaged.
Cause Determination: Both operators failed to yield right-of-way. There was ample room for passing and the visibility was clear. Also the equipment was in good mechanical condition prior to the accident. The operators were terminated for negligence, since apparently either one could have avoided the collision.

FALL

Employer: Contractor
Activity: Raising wall forms for elevator shaft.
Accident Situation and Occurrence: Three carpenters were working on the wall forms for an elevator shaft. They had been working on top of the form when the victim went down to adjust the bolts and aline the form from the attached scaffolding. Apparently in climbing down the inside form ribs, the victim stepped through an opening in the scaffold flooring, lost his handhold and fell 170 feet down the shaft. He received fatal injuries.
Cause Determination: Inspection showed that a 2- by 12- by 41-inch plank was missing from the deck of the form scaffold. This had been removed to patch a rock pocket about 10 days prior to the accident. The carpenters were aware of this hazard but neglected to replace the missing plank and continued to work from the scaffold. The plank has been replaced and in addition a chain-link safety net extending below the scaffold was suspended from the form.

BOOM CONTACTING POWERLINE

Employer: Contractor
Activity: Moving motor crane.
Accident Situation and Occurrence: The contractor was engaged in moving a motor crane from an excavation area prior to a scheduled blast. The oiler was driving the crane and the regular operator was walking along side of the crane directing the operation. The crane boom had not been lowered and contacted an overhead 24.9-kilovolt powerline in the construction area. Apparently the regular operator started to climb into the cab at the same time that the boom struck the powerline and he received severe electrical burns. He died 5 days later.
Cause Determination: The boom was not lowered to provide a minimum clearance of 10 feet from the power wires. Established safety procedures for moving the crane under transmission lines were not followed by the operator or by supervision.

COLLISION

Employer: Contractor
Activity: Hauling earth embankment material.
Accident Situation and Occurrence: A contractor was engaged in hauling fill material from a borrow area to the earth dam. A loaded DW-20 scraper was traveling south from the borrow area along a 50-foot-wide haul road. An empty bottom-dump truck was proceeding north along the same haul road. The loaded scraper moved over into his left-hand lane of the road preparatory to going up a left-hand ramp to the dam. The empty truck continued in his right-hand lane and did not move over to his left to give the right-of-way to the loaded vehicle.
Just prior to the collision both vehicles started to turn off the road in the same direction and struck head on. The operators were thrown from the vehicles and the operator of the empty truck received fatal injuries.
Cause Determination: Confusion on the part of the operators and the "crossover" pattern of the traffic flow were contributory causes to this accident. Establishment of a definite left-hand traffic pattern for this section of haul road would help prevent a recurrence of this type of accident.

FALL

Employer: Contractor
Activity: Erecting steel transmission tower.
Accident Situation and Occurrence: A lineman was on a tower leg hammering a steel draft pin into a bolthole. The hammer slipped and struck employee's left wrist causing him to lose his grip. He fell to the ground, a distance of 25 feet. The lineman suffered a fractured ankle and the estimated lost time was 90 days.
Cause Determination: The employee was not using a safety belt to tie-off to the structure. This incident stresses the need for using safety belts during tower erection.

* * * * *

EFFECTIVENESS OF TOOLBOX SAFETY MEETING

(Abstracted from paper on "Safety in Power O&M" presented by Darrell D. Temple at Region 7 Safety Workshop, May 20-21, 1963)

I have often wondered how effective these supervisors' toolbox safety meetings were. I made this inquiry on my last field trip and was quite surprised with the answer that I received.

At this plant the foreman stated that the 5-minute safety meetings have recently generated so much response that he has set up two log sheets to record suggestions made during the meetings; one being the suggestion itself, the other being the date the suggestion is put into effect. He stated that at this early date they already have a backlog of work to be done.

He said that the men are now actually looking for ways to improve plant safety, an attitude that has not always been present. He also said that safety-mindedness is contagious, something like good house keeping, and used this example as an illustration. If you go into a plant and see a cigarette butt in the corner, you would think nothing of throwing your cigarette on the floor. But if you go into a well-kept plant you will automatically walk the length of the plant to find a receptacle to discard your cigarette rather than throwing it on the floor.

He believes and I agree that the same type of reaction goes for safety. If you observe a person doing a job in a safe manner, then you in turn are very likely to be safety conscious while you do your job.

* * * * *

WATER SAFETY

Middle Rio Grande Project. Mr. Don Rendenbo, Bernalillo County Chapter director of the American Red Cross, met recently with the Water Safety Association of Albuquerque to become familiar with the organization's activities. Project representatives continue to work with the Red Cross in establishing a water safety council.

South Platte River Projects. A meeting held July 23, in Loveland, Colorado, with residents of Loveland and Fort Collins, resulted in the formation of the Northern Colorado Water Safety Council. The objectives of the Council will be to stimulate public interest in developing better safety practices on or near the water in connection with Operation Westwide. Mr. Earl Denton, representing the Larimer County Chapter of the Red Cross, was elected president. Mr. Lauren Simon, Project Safety Officer, explained the work of similar organizations now functioning in several western states. The group was told that safety education designed to alert the public of the potential dangers involved in all forms of water recreation will help influence people to practice better water safety habits.

Hungry Horse Project. The Project Superintendent and the Chief of the O&M Division attended the Board of Directors meeting of the Flathead Life Saving and Rescue Association. A set of distress signals (for water and hunting safety) were drawn up and the Safety Committee was requested to see what could be done toward having them printed on a wallet-size card to be given purchasers of hunting and fishing licenses.

Kansas River Projects. Continued activity in Operation Westwide was evidenced during the month on the entire project. Water safety posters have been placed in concessions for public observation. There were 200 copies of "Water Safety Tips" handed out to the public. Water safety inspections were made by Irrigation and O&M personnel. The Safety Engineer also made inspections of impounded and running waters in our reservoirs and canals. The Water Safety Council of the Great Lakes of Nebraska are making plans for their quarterly meeting to be held during August in McCook.

Niobrara-Lower Platte Projects. The officers of the Sherman-Howard County Water Safety Council held a meeting at Dannelrog, Nebraska, to formulate plans for the August meeting to be held at Ashton, Nebraska.

The Brown County Water Safety Council has scheduled a board of directors' meeting for August 22, 1963.

The First Section of the Ainsworth Canal, where impounded water is approximately 5 feet deep, has been posted against swimming and trespassing.

PROTECTIVE FOOTWEAR FOR CONSTRUCTION WORKERS

The possibility of foot injury, as encountered in the construction industry, demands that each worker wear foot protection specific to job conditions.

Among the many types of protective footwear available, there is one that will best fulfill the worker's needs for protection and comfort in each set of circumstances.

Obviously, "loafers" or discarded dress oxfords with thin soles and soft uppers are not designed for construction work.

Safety shoes, with steel box toes, heavy soles, and waterproof uppers, are recommended as everyday footwear on construction jobs. Many types are available and cost little more than ordinary shoes that have no protective features. The better safety shoes not only can provide a comfortable fit, but will outwear most kinds of ordinary shoes.

Very often a construction worker encounters conditions that require foot protection beyond that offered by shoes alone. Rubber overshoes or safety-toe rubber boots are the best choice for work in wet concrete or deep mud present during excavation, foundation operations, and other sub-grade work.

Overshoes generally are the worker's property and are readily available for wear over safety shoes as needed. In some cases, however, overshoes may not be high enough to exclude moisture.

Boots with safety toes and high uppers afford maximum protection against both foot injury and wet conditions. The employer often furnishes boots for use as required, and then reclaims them for re-issue. Thus, boots may be worn by more than one individual. Such practice may create problems of poor fit and may spread athlete's foot or other foot infections. A solution to these problems is for the employer to maintain a stock of boots in various size ranges and heights, and to sterilize each pair after the worker returns them. Where boots are worn frequently, each worker should have his own personal pair.

The employer should establish requirements specifying protective footwear for all types of work and job conditions. Each construction worker should observe such requirements by obtaining and wearing proper foot protection.

PROTECT YOUR FEET.

--Patrick Volpe
John A. Volpe Const. Co.

VEHICLE SAFETY

SEAT BELTS SAVE LIVES

Number 1

The following is extracted from the statement of a resident engineer who was driving a Government vehicle which was involved in an accident.

"I met the Division and District Engineers at the airport and drove them to the project for a tour and inspection which we made and completed by approximately 1:00 p.m.

We left the project en route to a restaurant. On reaching the junction point of the job access road and a U.S. Highway, I stopped and looked both directions along the highway. There were no vehicles approaching from the west or between us and the bridge heading west. There were no vehicles in sight to the east some 3/4 of a mile away where the highway ceases to be on a tangent and enters a long sweeping curve. The weather was fair and clear. The roads were dry.

The highway being clear in both directions, I proceeded onto the highway in a westerly direction on the right lane of the highway shifting gears through first, second and then to high. At this time the Division Engineer was seated in the front with me and the District Engineer occupied the rear seat. After proceeding along the highway some 500 feet from the job access road junction, I did note a vehicle approaching from the direction of the bridge. I would estimate my rate of travel at this time to have been approximately 35 to 45 miles per hour. It was at this instant just a fraction of a second before impact that I observed in the rear view mirror a vehicle about to crash into the rear of our car. We were then struck violently from the rear making the car lurch forward and to the right. I applied the brakes and attempted to control the vehicle; it was evidently angled too far off the pavement onto a sloping shoulder to be arighted. The right front door flew open and the vehicle rolled over (side to side) several times down the embankment coming to rest upside down. We unbuckled our seat belts and one by one extricated ourselves. Our physical condition at this time appeared to consist of two slight lacerations (face and scalp) to the Division Engineer and perhaps slight strains and bruises to the District Engineer and myself. We climbed up the bank to the highway."

Number 2

A GS-13 General Engineer was driving a Government vehicle about 45 miles per hour on an expressway when he noticed that traffic was stopped about 75 feet in front of him. When he pressed the brake pedal, it went clear to the floor. His car slammed into the car in front of him causing total loss of the Government vehicle and extensive damage to the private vehicle.

The Government driver stated, "The use of seat belts definitely reduced personal injury in this accident." His only injury was a laceration of the lower lip.

A mechanical inspection of the vehicle after the accident revealed that a foreign object had been picked up prior to the accident by the vehicle wheel and thrown up against the hydraulic brake line flexible base connection, cutting the base causing loss of fluid and brake failure.

Number 3

A GS-11 construction representative was returning from a jobsite. He was driving approximately 70 miles per hour when he lost control of the vehicle and veered off the left side of road, travelling a distance of 329 feet before he was able to get the vehicle back on the road. In his attempt to right the vehicle he crossed over to the right side for a distance of 63 feet and into a ditch where the vehicle rolled over on its top. The vehicle was badly damaged but the driver was not injured because he had his seat belt fastened.

--U.S. Corps of Engineers

* * * * *

FLAMMABLE LIQUIDS IN SMALL CONTAINERS

The above titled data sheet discusses safe methods of storing and handling flammable liquids in small containers and cites precautions for dispensing and filling operations involving such liquids and containers. "Small container," as used in this data sheet, is defined as one having a capacity not exceeding 55 gallons.

The entire data sheet has been printed in the July 1963 issue of the National Safety News.

* * * * *

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication entitled "Safety Requirements for Construction by Contract," Third Edition, September 1962.

1. Crawler cranes may be moved up or down grades without auxiliary equipment to maintain control. T F

2. Makeshift boom extensions are approved, provided a jib is not used. T F

3. Jibs must be operated at a 45° angle with the boom. T F

4. Performance tests on all cranes and derricks of 125 percent of the maximum anticipated load at maximum boom radii are required on all cranes and derricks. T F

5. Such performance test need not be verified by Bureau personnel or recorded. T F

6. Performance tests in excess of the manufacturer's rating for the rig shall not be attempted. T F

7. Manufacturer's load rating plates shall be attached to all cranes and derricks. T F

8. The radius of the boom has no bearing on the lifting capacity of the rig. T F

9. When 180° rotation is not required, only two outriggers may be used on a truck-mounted crane. T F

10. All outriggers should be set equidistant and be under pressure before a load is picked. T F

11. Headache balls shall be so constructed as to eliminate all tension on the ball. T F

12. Equipment, tag lines, etc., may be attached to hoisting equipment to insure stability but shall not be used as additional counterbalance. T F

13. When picking loads of any consequence by crane, A-frame, etc., the boom should be centered over the load. T F

14. Side pull on a boom by tag line or by the load causes undue stress on the boom and should not be permitted. T F

15. Identical cranes have the same capacity when truck-mounted, with outriggers, as when crawler-mounted. T F

16. Cranes need not be set on level ground or leveled to lift loads requiring rotation. T F

17. The boom angle and rig capacity remains the same on 180° rotation regardless of whether the rig is setting level. T F

18. Booms on cranes must be provided with boom stops or other effective method of preventing boom retracting over cab. T F

19. Any material of like shape is satisfactory for repair of crane booms. T F

20. Operators may leave the controls of a rig while a load is left hoisted in the air. T F

21. The use of blocks and multiple part loadlines makes for smoother operation and reduces the shock load on the rig and rigging. T F

22. Power down on the loadline is not required on cranes used on Bureau contracts. T F

For answers refer to page 24.

* * * * *

DEPARTMENT SAFETY AWARD TO WEBER BASIN EMPLOYEES

The Department of the Interior Certificate of Safety Achievement Award was recently presented to Bureau employees of the Weber Basin Projects Office, Region 4. During the period August 1, 1961, to January 31, 1963, the 181 Project employees worked 561,474 man-hours without a disabling work injury in the performance of their regular work duties.

* * * * *

FROM THE FIELD

Region 5. Did you know that the United States Attorney holds the position that any deviation from normal route of travel in Government cars is not considered official duty status. Per diem allowances include meals and incidental taxi fares, and it is suggested that a tape be used when traveling to a restaurant any distance from place of lodging or duty station.

Region 2. A sound-level meter and an Octave Band Analyzer have arrived from Denver. A noise study will be made in ADP. The equipment will also be used for a study in Clear Creek Powerplant at the Trinity Project.

Glen Canyon Unit. Members of the Thunderbird Federal Safety Council from northern Arizona and New Mexico held a quarterly meeting at Page on June 27. This is the fifth consecutive year that the group has met at Page. Project Construction Engineer L. F. Wylie gave an interesting and informative talk to the group on the progress of the Bureau of Reclamation safety program from its inception to the present time.

Norman Project. The Project Construction Engineer expressed concern over the fact that the number of toolbox safety meetings held have been decreasing in the last 2 months. The Safety Officer is to act through the supervisors to get more participation in this program.

Emery County Project. Now that construction is under way, hard hats are mandatory on all the construction areas. Signs have been erected by the contractor. Private cars are restricted to designated parking area at the dam.

Klamath Project. Special care was taken by supervisors throughout the month to remind the men daily of the various hazards connected with their work; especially to the fire danger in the range areas and the hazard in connection with spraying of noxious weeds.

Wichita Project. Eight safety meetings were held by the contractor during the month. Two of the equipment operators gave talks on equipment operation and pointed out the necessity for cooperation of everyone to prevent accidents. Other subjects discussed included careless operation of scrapers, horseplay, dusty haul roads, wearing hard hats, congested conditions on the fill and leaving scraper pans up when machines are unattended.

Eklutna Project. The 115-kilovolt line and low-voltage supply will be checked to determine the procedure for installing marking and lighting required by FAA standards for the Bryant Field Approach. Material has been ordered and necessary contacts made with FAA and the Army.

Snake River Development Office. At a supervisor's safety meeting, garage cleaning, black widow spider danger, range and forest fire precautions, office hazards, and driving safety were discussed.

Willows Field Office. Extremely dry conditions in the grain fields are presenting a fire hazard. This condition should be somewhat relieved after harvesting. Modification of vehicle exhaust systems also helps reduce this hazard. Arrangements for a guest speaker from the Forest Service will be made for our next project safety meeting on forest and range fires.

Canadian River Project. Employees were reminded that the use of seat belts, which are installed in all Government vehicles, is mandatory. They were also informed of certain portions of PML Letter No. 63-11 from the Department of Interior. This letter states, in substance, that failure to submit a notice of injury Form No. CA-1 could possibly leave employees without coverage by the Bureau of Employees' Compensation.

East Bench Project. Pros and cons of seat belts on the turnapulls were discussed by the contractor and it was decided that the 10 machines involved would be equipped with seat belts. The use of seat belts will not be mandatory, but the decision to use the belts will be left to the discretion of the individual operators.

* * * * *

QUESTIONS AND ANSWERS

What is the most effective first-aid treatment after chemicals have been splashed into the eye?

Only copious amounts of water should be used as a first-aid measure in the removal of chemicals from the eye. A few second's delay may be sufficient to cause serious damage or even loss of vision. Neutralizing agents may increase the damage to the eye. The mechanical removal of the chemical is important. This can be best accomplished by flushing the eyes with water. During the flushing process the lids should be held open so the water may come in contact with the eyeball and inner surfaces of the lids. Any available means such as an eye wash fountain, drinking fountain, or hose may be used for this treatment. If a hose is used for flushing eyes, a slow stream of water should be used so the eyes will not be injured or the chemical driven farther back under the eyelids. There should be no hesitation in using quantities of water. It is impossible to use too much.

--National Safety News, January 1963

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Washington 25, D. C.

July 31, 1963

ADMINISTRATIVE LETTER NO. 64-2

To: All Bureau Offices

From: Commissioner

Subject: Driving Privately Owned Vehicles on Official Business

There is quoted below a memorandum received from the Director of Personnel:

"Your attention is called to 394 DM 1 which states: 'No Departmental employee is allowed to operate a Government owned or leased motor vehicle, or a private motor vehicle [underline supplied] while acting within the scope of his office or employment, unless he is either an operator or incidental operator and has complied with these regulations.'

"Hence, in those cases in which a Government employee is authorized to use a privately owned vehicle for the conduct of official business, it is imperative that the person authorizing such use insures that the Government employee has been issued and is in possession of a valid United States Government Motor Vehicle Operator's Identification Card (Standard Form 46). The issuance and possession of such a card is one of the factors which may be taken into consideration as to whether a Government employee was acting within the scope of his office and employment while driving a privately owned car. The presence or absence may be an important factor as to whether the Attorney General will defend a suit against a Government employee under PL 87-258.

"It is suggested that the widest distribution be given to this memorandum pending the issuance of an appropriate manual release on the subject."

The general provisions for the above are included in Part 312.24.1 of the Reclamation Instructions.

(Signed) Floyd E. Dominy

CONTRACTOR SAFETY ORDERS

The H. B. Zachry Company, contractor for construction of Sanford Dam, Canadian River Project, Texas, outlined the following safety requirements to their employees at a special safety meeting on July 2, 1963:

A. Crane Operations

1. Cranes are to be inspected before each major pour or at least once a week.

    a. Inspections shall be made by a qualified operator and a mechanic familiar with crane maintenance.

    b. Inspections shall be reported to the Master Mechanic in writing.

    c. Inspections shall include boom cables, hoist cables, sheaves, booms, drums, all wire lines, brakes, air system and mechanically operated parts.

2. Only designated operators shall operate or handle cranes.

3. The operator shall never leave his position with a load on the hook.

4. Only the authorized signalman is to give signals to the operator.

5. No one except the operator and oiler will be allowed on crane while it is being operated.

6. Position or spot the crane where the boom will be operated as near the vertical as possible.

B. Handling Materials

1. All materials, toolboxes, water cans, etc., hoisted by hand shall be lifted by using "gin-pole" equipped with sheave pulley and rope.

C. Use of Compressed Air

1. Sandblasting shall not be started until every one in the area has been warned.

2. All persons working in the vicinity of sandblasting operations shall wear dust goggles or safety glasses with side shields.

3. No chipping, drilling, paving breaker work or using compressed air to clean forms or concrete shall be done without use of eye protection.

4. Do not use compressed air to remove dirt or dust from your clothing.

5. Directing compressed air toward another person will not be tolerated.

D. Welding and Burning

1. Only qualified personnel may use welding and burning equipment.

2. Cup-type goggles or welding helment only shall be used where doing burning or welding.

3. All acetylene or oxygen drums shall be chained in approved racks or blocked if laying down.

E. Winch Trucks

1. Any load moved while suspended from winch line shall be tied off to the bed of the truck.

2. Over length or over width loads are to be flagged with red cloth.

3. Truck operators are to stay at the controls all the time that they have any load on the winch line.

F. Roading Equipment

1. Front-end loaders shall be roaded at slow speed and with the bucket to the rear.

2. No one will be permitted to ride buckets of front-end loader nor will the bucket be used for hoisting personnel.

3. Mixers are to be roaded or operated only with both guard pipes flagged at the ends.

G. Riders

1. No person is to ride the crane hook or "head-ache" ball.

2. Only approved man-skips are to be used where there is no other way to get men on or off the structure.

H. Ladders

1. All ladders are to be built, placed and used as directed in Foreman's Hand Time-book.

2. All ladder rails shall extend 36 inches or more above the level where men step off.

I. Safety Meetings

1. At the beginning of the first shift of each week, a meeting will be held on company time by each foreman.

2. Supervisors will attend Supervisory Safety Meetings once each month or "as directed."

3. Men are encouraged to make suggestions or recommendations in their meetings or at any time.

J. First-aid Procedure

1. A full time, qualified First-Aid Technician is available at the office for treatment of injuries.

2. All injuries are to be reported to the Foreman immediately and are to be reported to the First-Aid Technician before leaving the job that day.

K. Remarks

"When you signed your W-2 Forms, you agreed to certain conditions and one condition is that you will work safely; for yourself, your family, and the man who comes behind you.

The Zachry Company is not paying, nor asking anyone to take chances. You have the privilege of quitting when you want to; and we maintain the right to terminate you for cause.

We expect your attitude to be such that you accept safety suggestions from our safety man, your foreman, your fellow workers, or the Bureau folks.

I am glad for this chance to visit with you and look forward to seeing you again soon."

(Signed) C. B. Morris
Construction Manager

* * * * *

PRECAUTIONS TO BE OBSERVED IN USE OF SODIUM CHLORATE

1. Sodium chlorate should be handled with extreme caution.

2. Its chief hazard lies in the fact that it is a powerful oxidizing agent which can cause fires and explosions, especially if it comes in contact with organic materials.

3. Sodium chlorate should be stored only in tightly covered metal containers. The containers should never be opened in buildings or placed in fields where there are any livestock.

4. When sodium chlorate is applied dry most of the fire danger is eliminated if it is used in places that are free from dew or other external moisture.

5. Personnel should use extreme caution and avoid any inhalation of the dust.

6. Gloves, pockets, cuffs, and shoes should be cleaned of any dry sodium chlorate which may have become lodged in them.

7. Shoes or boots should be washed because they remain a constant fire hazard once they have absorbed the sodium chlorate.

8. All clothing should be washed at least every other day.

9. All employees should wear monogoggles and respirators while applying sodium chlorate.

10. All employees should shower and carefully wash all exposed skin surfaces at the end of the day's work or shift.

HANDLE SODIUM CHLORATE IN THE SAME MANNER AS YOU WOULD EXPLOSIVES!!!

--Region 1, Boise, Idaho

ACCIDENT INVESTIGATION AND SAFETY REPORTING PROCEDURES - SERIOUS ACCIDENTS
(Chapter 4, of Reclamation Instructions Part 365)

Paper presented by Kenneth Sullivan, Regional Safety Engineer, Boulder City, Nevada, at the Regional Safety Engineers' Conference and Safety Workshop, Denver, Colorado - February 18-21, 1963.

PART B. Serious accidents, including drownings, involving the public or facilities operated by and under the direct control of the Bureau, including serious accidents to the public which involve Bureau personnel or Bureau property.

By definition - A serious accident is identified as an accident which results in death or permanent injury, or when property damage from causes, other than fire, amount to $2,500, or more, or in the event a claim for injury or tort is filed.

In these instances the following are to be notified by teletype: Commissioner, Attention: 540; Chief Engineer, Attention: 206; and the Regional Director. If possibility of a tort claim exists, the Regional Solicitor shall be immediately notified by the Regional Director.

In the event of a serious accident, how are we notified? On construction, where most phases of the contractor's activities are closely supervised by Bureau engineers and inspectors, these employees are in a position to know of any serious accident, and in these instances we would be notified without delay.

On projects operated and maintained by the Bureau, the situation varies. O&M forces are comparatively small and maintenance work is ordinarily concentrated in one area at a time. These employees do not cover the complete project as regularly as construction personnel and therefore are not in a position to know when every serious accident happens. In these instances, the local police, the county sheriff's office, or the state highway patrol would be notified. The question arises, how are we notified? As Harold Wersen has pointed out in "Operation Westwide" we can cultivate a relationship with all law enforcement agencies by presenting and discussing our mutual problems, which is saving lives. Most of these law enforcement agencies are willing to cooperate if they are cognizant of our interests. We have noticed that the county sheriff's office has been most helpful in notifying the operating offices of serious accidents. The city police in smaller municipalities have also cooperated, but the police of the larger cities and the state highway patrol have not transmitted this information to our offices.

In receiving a report of a serious accident, there are some basic questions that must be answered by the individual making the report in order to plan the investigation. These basic questions are as follows:

1. Name and address of individual reporting.
2. Location of accident, exactly where.
3. When did it happen, exact time, if known (noting present time)?
4. Was anyone injured, and how seriously?
5. Has an ambulance been called?
6. Have police, sheriff, or highway patrol been notified?
7. Were you an eye witness to the accident?
8. Briefly describe the accident.
9. Where can you be reached?

From the information received, we may be required to notify law enforcement officers, call an ambulance, the fire department, or special groups in the case of drownings.

All accident investigation personnel should have the proper equipment available to make a comprehensive and complete investigation. This equipment should include a first-aid kit, camera, extra film and flash bulbs, clip board, plain white paper, scratch pads, pencils, pens, eraser, report forms, straightedge, scale, flashlight with extra bulbs and batteries, measuring device such as (rolatape) a cloth tape, lumber crayon or chalk. In some instances, we may desire to pick up additional flares or other warning devices.

If we need any assistance, make these arrangements before leaving.

The manner in which we drive to the scene of an accident is of utmost importance. Always drive within the legal speed limits and observe all traffic regulations. As we approach the scene of the serious accident, we are to be especially alert for any vehicles leaving the area. Write down the make, license number, and state of issuance of any likely vehicle that may have been involved in the accident or the occupants that may have witnessed the accident. Make mental notes as to weather conditions, condition of road surface adjacent to the area, or any obstructions that may have been the cause or a contributing factor.

Upon arrival, observe all people in attempting to ascertain who was involved in the accident or who may have been a witness to this accident. Of course, our first obligation is to the injured person such as checking bleeding and treating for physical shock.

The witnesses should be contacted as soon as possible. Obtain the name and address of all witnesses before you conduct any interviews. Observe all parked vehicles, making note of the license numbers and makes of cars, as a witness may drive away without our knowledge.

Under most conditions, some evidence is present upon our arrival that may not exist for any length of time. This may be evidence which could establish point of impact; evidence of occupants drinking; faulty equipment; location of vehicles or injured person. Measurements or markings or both must be secured in these instances at the earliest time possible.

The individuals involved in the accident should be questioned first. Ordinarily, the first story told by the witness is the best. He has not had time to think it over and usually wants to assist you. These statements should be recorded by us; and the SF-94, statement of witness, may be used. We must not fail to show identifying information on the statement; where accident happened - within city limits show street numbers or names; if rural, indicate number of miles and direction from the closest well-known landmark; time of day and the date. Do not fail to request insurance information from the persons involved in this accident.

You may wish to take photographs as some evidence may not be available later. Wreckers may have arrived on the scene, rain may destroy some evidence, or darkness may be fast approaching. Usually we are required to take our own photographs and, not being a professional, I use my personal camera which will take acceptable pictures for printing. I always keep in mind that it is better to overexpose than underexpose. Another precaution I observe is to take two exposures of every view desired.

Pictures record things you may have failed to notice, and prove statements. Decide on what you want to photograph and proceed.

We should secure the rest of the witness statements at this time, keeping in mind the knowledge we have already obtained. If a statement is made which does not conform to the existing information, we should check this out for accuracy. Establish why the people were in that area, and where they came from, and their destination. Be exceptionally observant in what is said at the accident scene, making notes of the statements. These statements may seem insignificant at the time, but upon further investigation may prove very important.

Attempt to build a mental picture of what happened and proceed to pick up any loose ends that have been forgotten, overlooked, or failed to obtain.

In cases of vehicle accidents check the condition of the tires, springs, shackles, and brakes or other mechanical parts or functions which may be a contributing cause to the accident. Note ownership of car. Check the content of car for any unusual things, which could be liquor, fishing equipment, or hunting gear. These observations may answer some questions that were in the back of our mind. However, if they pose new questions, we must obtain clarification from the driver and occupants of this vehicle.

If any additional photographs are needed to show position of vehicles, or condition of vehicles, skid marks, road surfaces, secure them.

Record by whom and where the injured people were taken. Note who towed the vehicles away and where they may be located. It may be impossible to show the complete damage to a vehicle that has come to rest on its side or has left the road. Pictures of this damage may best be shown after the vehicle has been towed to the garage.

The next step is to approach the scene of the accident over the same route the people involved in the accident traveled. Observe any obstructions, note the description of any road or danger signs. Were Bureau "Danger-Keep Out" signs posted, or contractor warning signs present? Note road alinement and grade, type and condition of surfacing. Do not overlook skid marks on pavement and denote their pattern. After making these observations we should proceed with all necessary measurements for a scale drawing.

After leaving the scene of the accident we should visit the doctor and obtain a copy of his medical report. If the injured can be questioned at this time, after receiving permission from the doctor, we should contact them at the hospital or at their homes to complete their witness statements, or to clarify any questionable circumstances.

Contact the local law enforcing agency who investigates the accident and request a copy of their report.

If the coroner's office was involved, or if any autopsy was performed, we should request a copy of these reports.

The estimated cost of damage should be obtained if we do not have this figure. Finally, arrange to have your pictures developed.

Complete your report by checking all factual information for clarity and completeness. Finish the scale diagrams. Attach any sketches, maps, or drawings that would give additional information or help clarify some points of interest.

Summarize your report, indicating negligence, if present, and include the recommendations for preventative measures.

Three copies of this investigating officer's written report, together with three copies of SF-92 "Supervisor's Report of Accident" are to be submitted to the Chief Engineer, Attention: D-206.

I have outlined for you a case where the possibility of a tort claim exists. In these instances all information must be secured to establish a record of facts in the event a claim is filed.

This same procedure would be followed if claim for injury was evident, or where facts indicate a legal basis for the United States to recover damage to Government property.

We have experienced instances on operating projects when the operating office was notified by the civil authorities after they had completed their investigation. In cases of this nature, we are still obligated to conduct an investigation, although some pertinent data may not be available.

This completes the reporting procedures for serious accidents including drowning, involving the public or facilities operated by and under direct control of the Bureau, including serious accidents to the public which involve Bureau personnel or Bureau property.

PART C. Serious accidents to the public, including drownings on facilities constructed by the Bureau but operated by others such as water users or state or county agencies.

Neither a teletype notice nor a narrative report is required. SF-92 shall be submitted in triplicate to the Chief Engineer, Attention: D-206. This report is for information, and it may be completed from information obtained from the operator of the facility, a law enforcement agency, etc. A formal investigation is not required unless, in the opinion of the Regional Director or office head, such investigation is warranted.

Accident investigation is the process of obtaining facts. If we occasionally ask ourselves during our investigation - why - who - what - where - when - and continue to work and write, we can establish the facts which caused the accident; we then can make comprehensive preventive recommendations.

* * * * *

ANSWERS TO SAFETY QUIZ

1.	*(9-36)	F	9.	(20-44)	F	17.	-	F
2.	(9-32)	F	10.	-	T	18.	(9-36)	T
3.	-	F	11.	-	T	19.	(9-32)	F
4.	(9-29b)	T	12.	-	T	20.	-	F
5.	(9-29c)	F	13.	-	T	21.	-	T
6.	(9-31)	T	14.	-	T	22.	(20-44)	F
7.	(9-30)	T	15.	-	F			
8.	(9-29-30)	F	16.	(20-44)	F			

*( ) Refers to appropriate paragraph of "Safety Requirements for Construction by Contract," Third Edition, September 1962.

* * * * *

FALLS CAMPAIGN

Improper use of handtools causes hundreds of injuries each year in the construction industry. Couple this exposure with workmen, who, because of the nature of their work are also exposed to fall hazards, and the chances are the severity of the injury will increase considerably.

Some examples of falls resulting from improper use of handtools are:

1. Using wrenches with worn or sprung jaws that may slip on nuts being tightened and throw you off balance. Therefore inspect tools frequently, turn in faulty ones.

2. Passing a tool by tossing it to a fellow workman who attempts to catch it, loses his balance and falls. Or, if the tool is missed, it strikes a workman below knocking him from the structure. Do not throw tools; pass them to different levels with a handline.

3. Welding rod stubs should not be thrown from the holder and left on the floor or steel. Anyone stepping on one can fall. Keep stud ends in a box for safe disposal.

4. Do not leave handtools lying on the scaffold or structure where workmen can fall over them or kick them onto workmen below. Keep tools in the toolbox or in your scabbard when not in use.

5. Don't use a piece of pipe to increase leverage of a wrench. Don't use a shim to make it fit a smaller nut. Use the right size tool for the job.

6. Portable jacks can kick out and knock you off the structure. When using them make sure they are placed so they cannot slip or kick out when taking the load. Stand clear.

--Dean W. Ward,
Safety Director
John F. Beasley Construction Company

* * * * *

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 61 THROUGH July 31, 19 61

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	244	42,944	288,736							0.0	0.0		0	0
Denver Office	1,481	260,656	1,711,384	1	2		7	14	3.8	1.2	0.6	27	8	17
Alaska District	44	6,507	40,159							0.0	0.0		0	0
REGION 1														
Boise Regional Office	174	27,645	182,549							0.0	0.0		0	0
Central Snake Projects	48	7,752	48,386		1			10		20.7	19.0		207	19
Chief Joseph Dam Project	36	7,336	48,399							0.0	0.0		0	0
Coeur d'Alene Project			16,816							0.0	0.0		0	0
Columbia Basin Project	866	159,344	1,038,800		2			10		1.9	8.7		10	36
Hungry Horse Project	54	9,357	62,556							0.0	15.3		0	307
Lower Columbia Development	46	7,239	42,023	1	1		20	20	138.1	23.8	0.0	2,763	476	0
Minidoka Project	147	25,514	164,254	1	2		18	21	39.2	12.2	17.4	705	128	64
Rogue Project	2	352	5,202							0.0	0.0		0	0
Snake River Development	47	9,212	50,269							0.0	19.3		0	11,581
The Dalles Project	36	6,493	40,276							0.0	0.0		0	0
Upper Columbia Development	43	6,559	45,141		2			10		44.3	0.0		221	0
Vale Project	21	3,428	22,993							0.0	0.0		0	0
Yakima Project	90	4,723	31,188		1			4		32.1	32.7		128	98
Totals and Averages	1,550	274,961	1,798,852	2	9		38	75	7.3	5.0	8.9	138	42	375
REGION 2														
Sacramento Regional Office	620	109,120	708,592	4	5		129	219	36.7	7.1	7.0	1,182	309	34
Folsom Field Division	60	10,874	73,448							0.0	0.0		0	0
Fresno Field Division	152	26,752	176,600	1	1		41	41	37.4	5.7	11.0	1,533	232	155
Shasta Field Division	118	20,818	135,659					19		0.0	7.2		140	688
Tracy Field Division	184	33,423	221,568		2			64		9.0	13.8		289	401
Distribution System Project			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	27	4,785	37,565							0.0	0.0		0	0
Lahontan Basin Project	28	4,704	30,904							0.0	0.0		0	0
Red Bluff Office	117	20,592	135,520		1	1		6,000		7.4	0.0		44,274	0
San Luis Unit	476	86,261	462,057		4			64		8.7	0.0		138	0
Trinity River Division	174	30,624	235,556		3			38		12.7	0.0		161	0
Willows Field Office	30	5,280	20,144							0.0	--		0	--
Totals and Averages	1,986	353,233	2,260,680	5	16	1	170	6,445	14.2	7.1	5.0	481	2,851	107
REGION 3														
Boulder Regional Office	156	27,456	165,696							0.0	0.0		0	0
Boulder City Development	15	2,640	13,464							0.0	--		0	--
Boulder Canyon Project	161	29,624	187,380		2			53		10.7	15.6		283	462
Colorado River FW&LS	88	12,487	87,605		2			8		22.8	24.2		91	85
Parker-Davis Project	308	49,948	329,197		1			11		3.0	3.0		33	12
Phoenix Development	120	9,600	118,254		2			200		16.9	15.4		1,691	15
Southern California Development	25	3,805	16,514							0.0	--		0	--
Yuma Projects	200	27,960	176,305							0.0	12.8		0	32
Totals and Averages	1,073	163,520	1,094,415		7			272		6.4	9.2		249	109
REGION 4														
Salt Lake Regional Office	316	51,307	395,328							0.0	0.0		0	0
Emery County Project	41	8,168	46,122							0.0	0.0		0	0
Central Utah Projects	142	26,319	156,722		1			20		6.4	16.0		128	1,246
Curecanti Unit	99	17,784	107,391							0.0	12.1		0	72,461
Flaming Gorge Unit	145	22,468	152,998							0.0	0.0		0	0
Glen Canyon Unit	350	64,400	430,510		1			14		2.3	7.4		33	1,940
Navajo Unit			8,603							0.0	12.9		0	129
Power Operations Office	13	1,864	4,127							0.0	--		0	--
Transmission System Office	79	13,904	93,846		1			12		10.7	0.0		128	0
Durango Projects	84	15,811	99,117	1	1		32	32	63.2	10.1	9.1	2,024	323	73
Grand Junction Projects	91	17,840	110,100	1	2		2	6	56.0	18.2	12.3	112	54	487
Logan Development	14	2,712	16,692							0.0	0.0		0	0
Seedskadee Project	76	13,260	85,912							0.0	9.9		0	447
Upper Green River Project	17	3,400	22,120							0.0	0.0		0	0
Weber Basin Project	231	40,656	254,260							0.0	0.0		0	0
Totals and Averages	1,698	299,893	1,983,848	2	6		34	84	6.7	3.0	5.7	113	42	3,402
REGION 5														
Amarillo Regional Office	109	17,596	135,060							0.0	0.0		0	0
Albuquerque Development	37	5,936	39,199							0.0	0.0		0	0
Austin Development	67	9,466	79,113							0.0	0.0		0	0
Canadian River Project	159	26,838	179,156							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	41	7,584	61,384							0.0	0.0		0	0
Middle Rio Grande Project	224	36,111	261,604	2	5		12	34	55.4	19.1	12.6	332	130	114
Navajo Indian Irrigation Project	58	10,336	49,008		1			2		20.4	--		41	--
Norman Project	91	13,518	89,286							0.0	0.0		0	0
Oklahoma City Development	29	4,285	32,832							0.0	0.0		0	0
Rio Grande Project	282	49,702	331,302		1			7		3.0	11.4		21	69
San Angelo Project	9	1,624	37,762							0.0	18.3		0	905
San Juan-Chama Project	63	14,808	40,390	1	1		5	5	67.5	24.8	--	338	124	--
Wichita Project	62	11,935	75,814							0.0	21.9		0	22
Totals and Averages	1,221	209,789	1,411,870	3	8		17	48	14.3	5.7	8.0	81	34	117
REGION 6														
Billings Regional Office	260	41,118	271,328							0.0	3.9		0	
Canyon Ferry Project	21	3,199	21,477		1			18		46.6	0.0		838	0
East Bench Project	74	11,902	79,302							0.0	0.0		0	0
Fort Peck Project	37	5,160	40,251		1			11		24.8	0.0		273	0
Missouri-Oahe Projects	276	44,160	305,836	1	3	1	6,000	6,049	22.6	9.8	6.7	135,870	19,779	805
Missouri-Souris Projects	126	19,763	145,797		2			12		13.7	6.3		82	39
Power System Operations	40	6,400	48,160							0.0	0.0		0	0
Riverton Project	32	5,113	34,978							0.0	0.0		0	0
Upper Missouri Projects	91	14,907	96 361							0.0	25.8		0	241
Yellowtail Project	139	32,271	141,182							0.0	8.6		0	*
Totals and Averages	1,096	184,001	1,184,672	1	7	1	6,000	6,090	5.4	5.9	6.9	32,609	5,141	241
(Continued next page)														
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

*FATALITIES INCLUDED IN TOTAL DISABLING

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH July 31, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
r Regional Office	176	31,504	204,880							0.0	0.0		0	0
r Development	32	5,600	34,952							0.0	0.0		0	0
span-Arkansas Project	94	13,859	65,888		1			400		15.2	--		6,071	--
s River Projects	348	61,248	395,224							0.0	2.5		0	20
ara-Lower Platte Projects	286	45,760	332,480		1			6		3.0	0.0		18	0
Platte River Projects	330	52,800	366,401					10		0.0	0.0		27	0
Platte River Projects	177	28,320	196,904	1	2		3	12	35.3	10.2	4.9	106	61	68
Totals and Averages	1,443	239,091	1,596,729	1	4		3	428	4.2	2.5	1.3	12	268	14
CONSOLIDATED TOTALS	11,836	2,034,595	13,371,345	15	59	2	6,269	13,456	7.4	4.4	5.3	3,081	1,006	659
TOTALS LAST YEAR (19 62)	11,190		22,611,294		118	4		27,996		5.2			1,238	

* FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 62 THROUGH July 31, 19 62

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	17	849	13,231							0.0	0.0		0	
Columbia Basin Project	98	12,944	125,786							0.0	7.0		0	
Coeur d'Alene Project			30,574							0.0	--		0	
Minidoka Project	4	262	1,229							0.0	0.0		0	
Rogue Project			8,477							0.0	0.0		0	
Snake River Development			24							0.0	--		0	
The Dalles Project	44	6,386	53,351							0.0	--		0	
Vale Project			56,142							0.0	0.0		0	
Hungry Horse Project	18	1,065	1,265							0.0	0.0		0	
Yakima Project	4	600	12,093							0.0	0.0		0	
Totals and Averages	185	22,106	302,132							0.0	4.0		0	
REGION 2														
Distribution System Projects			18,390		2			15		108.8	44.8		816	1,1
El Dorado Distribution			11,399							0.0	100.1		0	9
Fresno Field Division			8,711		2	1		6,021		229.6	--		691,195	
Klamath Project			1,590							0.0	0.0		0	
Red Bluff Office	145	30,416	169,000		1			21		5.9	44.2		124	2,0
San Luis Unit	777	124,758	491,386		7			210		14.2	0.0		427	
Tracy Field Division	5	320	7,735							0.0	0.0		0	
Trinity River Division	183	30,997	316,564		11			6,135		34.7	50.4		19,380	8
Totals and Averages	1,110	186,491	1,024,775		23	1		12,402		22.4	51.4		12,102	9
REGION 3														
Colorado River FW&LS	24	2,920	17,606							0.0	0.0		0	
Parker-Davis Project	85	4,662	59,139		2			95		33.8	0.0		1,606	
Phoenix Development	10	100	2,600							0.0	0.0		0	
Yuma Project	6	348	2,072							0.0	19.7		0	5
Totals and Averages	125	8,030	81,417		2			95		24.6	9.9		1,167	2
REGION 4														
Central Utah Projects	3	72	8,479							0.0	48.1		0	1,6
Curecanti Unit	317	64,719	381,188	2	9		37	201	30.9	23.6	13.4	572	527	
Flaming Gorge Unit	606	105,171	608,016	3	15	2	166	12,842	28.5	24.7	7.1	1,578	21,121	7,2
Glen Canyon Unit	1,459	229,185	1,926,408	6	31	1	59	6,656	26.2	16.1	18.3	257	3,455	6
Navajo Unit			32,081							0.0	19.5		0	
Emery County Project	75	11,421	13,566	1	1		6	6	87.6	73.7	0.0	525	442	
Florida Division	238	42,440	158,473	3	5	1	6,034	6,135	70.7	31.6	36.2	142,177	38,713	8
Grand Junction Projects			11,292							0.0	21.2		0	
Seedskadee Project	379	78,987	365,135	2	3	2	12,000	12,090	25.3	8.2	11.8	151,924	33,111	
Weber Basin Projects	403	72,295	330,293		4			34		12.1	34.9		103	35,7
Totals and Averages	3,480	604,290	3,834,933	17	68	6	18,302	37,964	28.1	17.7	17.5	30,287	9,899	3,4
REGION 5														
Amarillo Regional Office			8,177							0.0	0.0		0	
Austin Development			1,223							0.0	--		0	
Canadian River Project	429	88,264	522,040	1	3		8	33	11.3	5.7	35.3	91	63	
Lower Rio Grande Rehabilitation	108	11,591	92,309	1	1		2	2	86.3	10.8	21.7	173	22	
Norman Project	130	21,996	118,403							0.0	--		0	
Oklahoma City Development			2,471							0.0	--		0	
Rio Grande Project	2	192	7,441							0.0	30.4		0	17,1
San Angelo Project			50,889							5.1	0.0	367	86	
Wichita Project	184	46,376	197,023	1	1		17	17	21.6	17.8	31.0	160	52	11,0
Totals and Averages	853	168,419	999,976	3	5		27	52	17.8	5.0				
REGION 6														
East Bench Project	298	48,466	202,886	2	11		23	106	41.3	54.2	53.6	475	522	
Missouri-Oahe Projects	187	18,714	84,070	2	4		14	32	106.9	47.6	28.4	748	381	
Missouri-Souris Projects	165	26,678	101,812	1	2		62	67	37.5	19.6	51.3	2,324	638	2,4
Riverton Project	2	284	10,283							0.0	0.0		0	
Upper Missouri Projects	12	1,390	10,635		1			3		94.0	0.0		282	
Yellowtail Project	759	118,202	593,065		4	4		24,000		6.7	12.8		40,468	
Totals and Averages	1,423	213,734	1,002,751	5	22	4	99	24,208	23.4	21.9	25.8	463	24,142	
REGION 7														
Fryingpan-Arkansas Project	7	925	2,151							0.0	--		0	
Kansas River Projects	331	70,056	337,044	1	2		15	215	14.3	5.9	6.5	214	638	
Niobrara-Lower Platte Projects	522	99,083	412,964	1	3		4	9	10.1	7.3	13.2	40	22	
North Platte River Projects	18	743	8,485							0.0	92.3		0	1,2
South Platte River Projects	4	390	3,702							0.0	0.0		0	
Totals and Averages	882	171,197	764,346	2	5		19	224	11.7	6.5	11.6	111	293	
CONSOLIDATED TOTALS	8,058	1,374,267	8,010,330	27	125	11	18,447	74,945	19.6	15.6	23.5	13,423	9,356	3,1
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

GPO

*FATALITIES INCLUDED IN TOTAL DISABLING

SAR

SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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August 1963

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TABLES

Safety Performance Record

Government--January - August 1963	27-28
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Front Cover Photo: Shown (left to right): George D. Winans, Regional Safety Engineer; Howard Pyle, President of National Safety Council presenting Award of Honor to H. P. Dugan, Regional Director, Region 7, Bureau of Reclamation. PX-700-2127.

SAFETY RECORD is published monthly by the office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

NATIONAL SAFETY COUNCIL AWARD OF HONOR

Region 7 of the Bureau of Reclamation received an Award of Honor, the highest award of the National Safety Council for industrial accident prevention.

H. P. Dugan, Regional Director, Region 7, accepted the award presented by Mr. Howard Pyle, Chicago, President of the National Safety Council, in behalf of Reclamation employees in Colorado, Wyoming, Kansas, and Nebraska who accomplished the enviable record of safety on the job in 1962.

During 2,666,000 man-hours of exposure to hazards, 1,350 employees incurred only 5 disabling injuries. These injuries resulted in only 57 calendar days of lost time. The record was outstanding because there were only 1.9 disabling accidents per million man-hours worked with a severity rate of 21. This means that 21 calendar days of lost time occurred per million man-hours worked.

Commending the region for "this notable accomplishment," Mr. Pyle pointed out that such a record cannot be achieved without organized and concentrated attention to safety. "The record," he said, "sets an example for other large organizations, both public and private."

As an agency in the water development field, the Bureau has many workers constantly using highways as they maintain reservoirs, canals, study potential projects, and work with contractors on projects under construction. Many of the employees are exposed to the hazards attendant to high-voltage electricity in the maintenance and operation of transmission lines and powerplants.

In determining qualifications for the award, the National Safety Council compared Region 7's accident rates to those of the nationwide construction industry for 3 prior years, and with its own record for the 3 years.

"Considering the accelerated work program accomplishments of Region 7 personnel, this excellent safety record is truly outstanding," Mr. Dugan said, "and we will not relent in our efforts to maintain and improve accident prevention standards."

(Region 7 won the Commissioner's Annual Safety Award in recognition of their exemplary safety record during 1962.)

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
January 1 - August 31, 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 7	2.7	233	6.3	3.4
Region 4	3.1	50	1.5	3.8
Region 5	4.8	29	1.4	4.5
Region 1	5.3	41	2.2	1.6
Region 3	5.5	236	13.0	4.4
Region 2	7.3	2,501	182.6	5.4
Region 6	7.4	4,608	341.0	2.8
Alaska District	21.2	21	4.5	0.0
Total to date	4.6	892	41.0	3.7
Totals last year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	5.9	56	0
Region 7	9.4	284	0
Region 4	18.1	11,056	8
Region 2	21.6	9,956	1
Region 6	21.9	19,883	4
Region 3	29.4	6,803	0
Total to date	16.2	9,192	13
Totals last year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to date: August 31, 1963

A. ACCIDENT CLASSIFICATION:

Type	Description	No.	Days lost
2	Aircraft	1	6,000
5	Vehicles	4	6,241
7	Explosions	1	6
9	Electricity	3	27
12	Handling Material	18	750
13	Falling Objects	2	17
14	Falls of Persons	12	238
15	Jumping to Places	2	5
16	Striking Against	2	3
17	Flying Particles	3	37
18	Handtools	6	52
19	Machinery	3	138
20	Not otherwise classified	14	268
	Totals	71	13,782

B. OPERATIONAL SUMMARY:

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	3,684,518	3	17	0.8	5
Construction	3,948,479	17	6,247	4.3	1,582
Design	1,634,933	2	11	1.2	7
Investigation	1,946,146	19	940	9.8	483
O&M-Irrigation	1,881,048	16	407	8.5	216
O&M-Power	2,354,822	14	6,160	5.9	2,616
Totals	15,449,946	71	13,782	4.6	892

C. SERIOUS ACCIDENTS: (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000

ACCIDENT REVIEW

FALL

Employer: Contractor
Activity: Drilling tunnel heading.
Accident Situation and Occurrence: Miner fell from wing of jumbo during drilling operation, after losing balance on edge of platform. Employee injured ribs with 8 days estimated lost time. Extension of wing on jumbo has now been made allowing more room for miners to work.

VEHICLE

Employer: Government
Activity: Driving guard patrol car.
Accident Situation and Occurrence: Guard was driving his vehicle on a routine patrol of area. He was following a car which pulled into the curb and parked. He apparently blacked out as the next thing the guard remembered was the crash when he struck the parked car. Employee received a scalp laceration and lost time was 6 days. Periodic physical examinations for guards and patrolmen would help detect physical weaknesses.

GROUT LINE

Employer: Contractor
Activity: Grouting in tunnel.
Accident Situation and Occurrence: Concrete laborer was working back of form on tunnel pour. End of grout line became plugged. Joint in pipe was cracked to let grout out. The pressure caused grout to spray into the eyes of the employee. Cement burn to eye caused lost time of 10 days. This accident points up the need for extreme caution when unplugging grout lines. Wearing of safety goggles would protect the eyes during this operation.

TRACTOR DOZER

Employer: Contractor
Activity: Pioneering access road along canyon wall to crest of dam.
Accident Situation and Occurrence: Employee was benching out a pioneer road along rock canyon slope using a tractor dozer. A section of bench rock slipped down causing the tractor to lose footing and settle. The operator tried to regain footing but the dozer nosed over and rolled down the slope into the river. The employee received fatal injuries.

Cause Determination: At the start of the day's operation, both the foreman and operator checked the ground and believed it was safe to proceed with the work. At best, this type of road pioneering is hazardous. The rock in the area was highly fractured and apparently a large mass came loose by the vibrations set up by the tractor dozer.

* * * * *

HOWARD PYLE EQUATES SUCCESS WITH EFFORT

Eight prominent Chicago citizens were recently asked for their personal philosophy on success. Howard Pyle, National Safety Council President, replied as follows: (quoted in part)

> "Success is in the striving. Was Wilson a failure because Congress would not ratify the League of Nations or Lincoln because he did not live to see all men treated equally? Religious leaders throughout time have been rejected, scoffed at, ignored. Were they failures?
>
> "Unremitting dedication to a goal is the true mark of success. This does not rule out the possibility of failures along the way, or suggest that we are not saddened by them. In our business of saving lives, for instance, we live with failure every day. It is only if we let failure interfere with our effort that we really fail to succeed."

* * * * *

WATER SAFETY

CANAL SAFETY

Yuma Projects Office: Four boys were swimming in an irrigation lateral canal of the Wellton-Mohawk system in Arizona. The boys were floating on inner tubes at the upstream side of a check. One boy had something scratch his foot and upon investigating it was revealed that the smallest boy was pinned against the check gate and was unable to free himself even with help. Quickly thinking, one boy opened the gate and flushed the youngster through the structure. The boy was pulled out of the canal unconscious, but another brother immediately began mouth-to-mouth resuscitation. Upon arrival of the Deputy Sheriff, the boy had regained consciousness. The examining doctor stated that the boy's knowledge and prompt administering of mouth-to-mouth resuscitation saved the life of his brother.

During an interview by the Project Safety Officer, the older boy stated he had seen this method of resuscitation demonstrated on television about a week prior to the incident. This near tragic accident points out the continuous need for an educational Water Safety Program.

Logan Development Office: The Cache County Water Safety Council held a meeting on August 12. As a result of the meeting, three articles treating different phases of water safety have been prepared and published in the local newspaper. The Council authorized a year's subscription to the Public Safety Newsletter published by the National Safety Council.

Eklutna Project Office: The safety floats at Eklutna Lake around the tunnel intake were completed in August. Seven 55-gallon barrels were filled with "Arothene" foam weighing 1.8 pounds per cubic foot. This was necessary to keep the barrels from being sunk by rifle fire. The barrels were painted with an "International Orange" fluorescent paint and several coats of clear varnish painted over this to preserve its life. The barrels were then secured by heavy steel bands and nylon anchor ropes to 100-pound blocks of concrete.

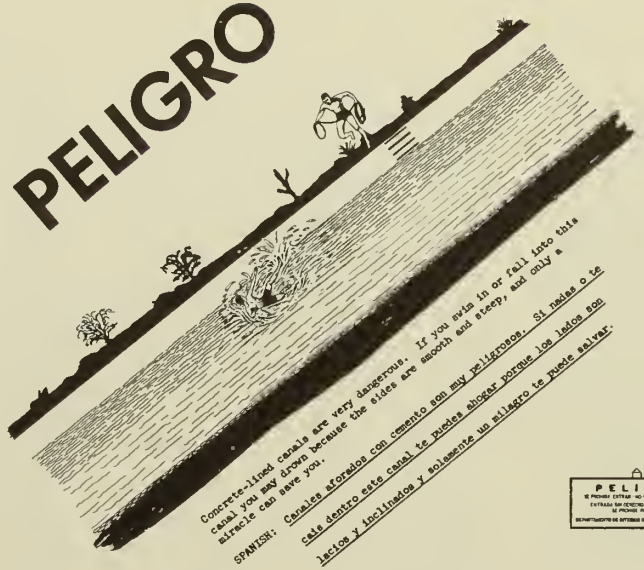
The barrels are easily visible from a mile or more even under poor lighting conditions and should serve very well as warning and safety floats.

We also have a warning sign on the shore notifying people that lake traffic should not come within 300 yards of the sign due to the intake currents.

U. S. BUREAU OF RECLAMATION
REGION 3

AUGUST 1963

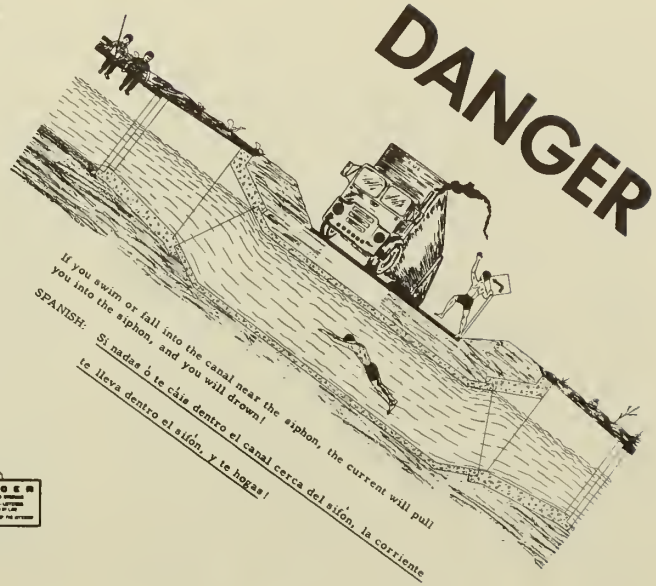
PELIGRO



Concrete-lined canals are very dangerous. If you swim in or fall into this canal you may drown because the sides are smooth and steep, and only a miracle can save you.

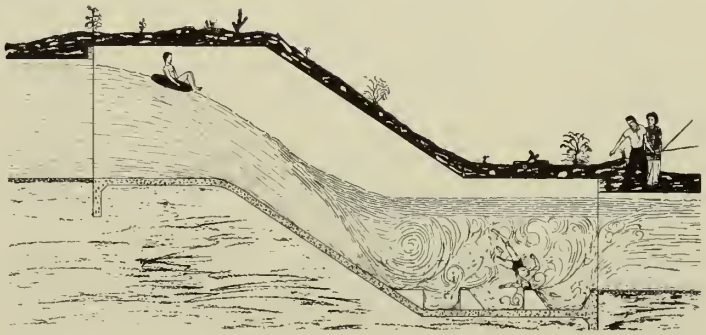
SPANISH: Canales aforados con cemento son muy peligrosos. Si nadas o te caís dentro este canal te puedes ahogar porque los lados son lactos y inclinados y solamente un milagro te puede salvar.

DANGER



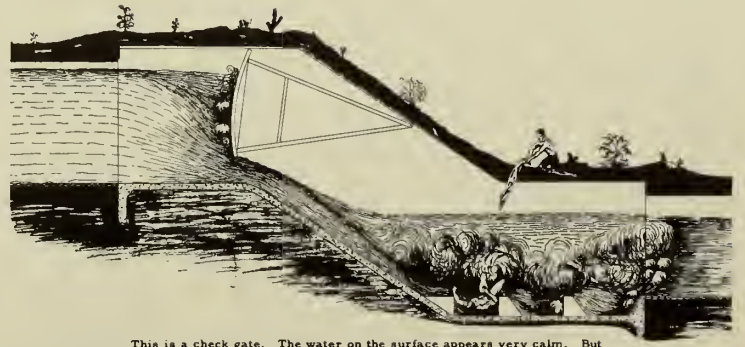
If you swim or fall into the canal near the siphon, the current will pull you into the siphon, and you will drown!

SPANISH: Si nadas ó te cáis dentro el canal cerca del sifón, la corriente te lleva dentro el sifón, y te hogas!



If you swim or fall into the canal near this structure, you will drown!

SPANISH: Si nadas ó te cáis dentro el canal cerca de esta estrictura, te hogas!



This is a check gate. The water on the surface appears very calm. But below the surface, the current is very strong and it will pull you into the check gate. The force will mangle your body, and you will drown!

SPANISH: Esta es una compuerta. El agua por ensima se ve muy calma, pero abajo el superficie del agua la corriente es muy fuerte y te hála dentro la compuerta. La fuerza te machuca el cuerpo, y te hogas!

INTERIOR-RECLAMATION BOULDER CITY NEVADA

FROM THE FIELD

San Luis Unit: The contractor on Reach 1 is doing an excellent job of putting up warning signs and adhering to the hard-hat regulations. It appears that the Joint Policy Safety Committee meeting with the contractor had some effect as the foremen were seeing that the portable haul road warning signs are being moved on the road changes.

The First-aid Course for a portion of the contractor's personnel was completed on August 29. Employees attending this course were extremely attentive and showed great interest. A second course in first aid will be started September 3, for the remaining supervisory personnel of Guy F. Atkinson Company.

Billings, Regional Office: At the Regional Safety Committee Meeting of August 29, Assistant Regional Director G. J. Cheney said all Divisions of the Bureau must take an active part and contribute materially to the accident prevention program; also, we must look to new ways to make safety committee meetings more effective. He suggested that all members come to the next meeting with ideas for improvement in safety. As Fire Prevention Week is usually the first full week in October, he asked that Safety and the Division of Property report at the October meeting on their fire prevention activities, including findings and recommendations.

Canyon Ferry Project: Eight employees attended the fire drill held on August 7. The operation of the firetruck pumping apparatus was explained and nozzles tested. Water was pumped from the river just below the powerplant.

Red Bluff Office: A "Defensive Driving" conference was held with Bureau personnel August 8, at the Reclamation Branch Office, Lodi, California, to review the General Services Administration booklet "The Driver."

Central Utah Projects: The project safety engineer met with survey personnel in Duchesne, Utah, and land classification personnel in Roosevelt, Utah. Safety problems relative to their particular activities were discussed. Items considered included: (1) safe driving practices; (2) fire prevention practices in fields, brush, etc.; (3) safe lifting principles; (4) working with power augers and excavation equipment; and (5) safe practices in obtaining samples from test pits.

Canadian River Project: The contractor's orientation program for new employees was outlined:

(1) Safety handbooks printed in both English and Spanish are presented to each new employee.
(2) Specific instructions are given to the employees as to their work assignment.

(3) Where practical, new employees are taken on field trip over the project prior to beginning work.
(4) Inspection and explanation of first-aid facilities at the dam and procedures to follow in case of injury or accident.

Durango Projects: The contractor has installed seat belts in all earth-moving equipment and has issued orders making the use of these seat belts mandatory in every case.

Glen Canyon Unit: All operators of hoisting equipment on the dam have had physical examinations to determine that they are not subject to epilepsy, heart disease, or similar ailments that would be detrimental to safe operation of equipment. This examination included operators of cableways, cranes, monkey slides, and tugger hoists.

Four standpipes, with racks of 100 feet of 1-1/2-inch firehose on each, have been installed on generator floor of the powerplant as a means of fire protection during the construction period. Fire extinguishers of various types and water barrels are also provided where needed.

* * * * *

DON'T STORE GASOLINE IN PLASTIC CONTAINERS

Consumer Bulletin, July issue (Consumer's Research, Washington, N. J.) contains an article dealing with the hazards of storing gasoline in plastic containers.

The article states that plastic containers can deteriorate after long-time storage and that often the caps do not screw on tightly, thereby allowing the volatile liquid to evaporate or spill.

Metal cans are best, especially if they have Underwriters' Laboratories or Factory Mutual label or stamp on them.

Also, be sure that there is a clearly marked label on the can - "Gasoline."

--Public Safety Newsletter, September 1963

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DRIVER INSTRUCTION CLASSES

SAN LUIS UNIT - CENTRAL VALLEY PROJECT - CALIFORNIA

Safety - Euclid Company instructor holding training classes for M-K, Utah, Brown & Root (contractor) drivers of the 45 LDT earth-movers. Bureau of Reclamation photo P805-236-2068.

HUNTING SAFETY TIPS

Actually, hunting is one of our safest sports when you consider the relatively small number of mishaps in relation to the total number of hunters. But even one accident is a tragedy for some family, particularly when there is no excuse for it.

Educational campaigns and hunter safety programs have helped to keep the number of firearm accidents at a minimum in recent years, but in the last analysis, it's up to the individual hunter to practice safe gun handling rules at all times. This, and this alone, can eliminate hunting accidents entirely.

There's nothing complicated about safe gun handling. The few precautions are easy to practice. In fact, these simple steps become second nature in a very short time. The most important thing to remember is to treat every gun with the respect due a loaded gun. Then there will never be a reason for that tragically heart-rending moan, "I didn't know it was loaded."

Never point a gun at anything you do not want to shoot. Never climb a fence or a tree with a loaded gun. In these admonitions you have safe gun handling wrapped up in an easy-to-carry package. There are other precautions, of course, but these are so very important to your own safety and those hunting with you.

In entering your home, camp, or automobile, carry only empty guns, taken down or with the action open. Whenever you pick up a gun, whether in or out of doors, always first point the muzzle in a safe direction and examine the piece carefully to make sure whether or not it is loaded. Never shoot at anything you cannot clearly see. A strange sound in the woods may be caused by game but it might also be caused by a farmer's livestock or, much worse, another hunter.

No one should ever indulge in pranks or horseplay on a hunting trip. The pointing of a loaded or unloaded gun toward a companion violates every principle of good sportsmanship. It is the unpardonable sin of shooting ethics. Do it even unconsciously and you run the risk of being considered a thoughtless novice or a careless, dangerous shooter with whom it is unsafe to go afield. Watch that muzzle.

When you start out on a hunt, do not load your gun until you are ready to enter the field or are in your duck blind. Then first make sure that the barrel and action are free from any obstruction. Foreign matter in the barrel causes more "blown up" guns than any other factor. Should you stumble or fall and your gun muzzle touch the ground, unload the gun and look through the bore to be sure that it is not clogged with mud, snow or other substance.

Always see that your safety in ON until you are ready to shoot. Sudden jars or brushing against twigs or brush can release the safety catch without your knowing it. Check on it frequently.

In hunting with a companion, try to walk abreast but be sure that your gun muzzle is always pointed away from him. Also see that he takes the same precaution. If you are walking behind your companion, see that your gun points away from him at all times.

In a duck blind, never crowd your companion. Give him plenty of swinging room and see that you have enough for yourself so that both can shoot safely.

The biggest danger in hunting, however, lies in your own carelessness. Take no chances yourself and encourage your hunting friends to obey all the rules of safety. Let's make this an accident free hunting season.

--Remington News Letter

* * * * *

RECLAMATION SAFETY AWARDS PRESENTED TO ALCOVA DAM EMPLOYEES

Operating employees at the Bureau of Reclamation Alcova Dam and Powerplant were awarded Regional citations on August 14, 1963, for having worked 3,000 consecutive days without sustaining a lost-time accident.

The safety awards were presented by Paul H. Berg, Assistant Regional Director, Region 7, Denver, Colorado. While commenting on the outstanding reward of the Alcova employees for working 3,000 days (nearly 8-1/2 years) without a disabling injury, Mr. Berg emphasized the pride with which the Bureau points to such outstanding safety achievements.

Mr. Berg presented the group a framed citation for the 3,000-day award. In addition, each employee received a wallet-size citation and a token cash award. Bureau of Reclamation photo P144-703-3514.

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication "Safety Requirements for Construction by Contract," Third Edition, September 1962.

1. When salamanders are improperly used within an enclosure, they may present a fire hazard as well as a health hazard. T F

2. Enclosed areas which may be subject to flammable or explosive vapors shall be heated, when necessary, through duct-work remote from the source of flame. T F

3. Appropriate fire extinguishers, hydrants, water barrels, etc., shall be provided to insure first-aid fire protection. T F

4. Fire protection equipment shall be well maintained, readily accessible and used for no other purpose. T F

5. The handling of materials accounts for a high percentage of lost-time injuries on all types of construction. T F

6. The safety handbook contains requirements applicable to the storage and handling of most materials common to the construction industry. T F

7. The frames of portable electric handtools need not be grounded if the power source does not exceed 110 volts. T F

8. Pneumatic hose lines under pressure may be crimped to permit tool adjustments, disconnect, etc. T F

9. Should the need arise for use of power-actuated tools, the entire operation should be thoroughly planned in advance taking into account the mandatory requirements stipulated in the handbook. T F

10. Machinery and mechanized equipment shall be inspected, and tested, if necessary to insure it is in a safe operating condition and appropriate for the job. Such follow-up inspections as necessary shall be made to insure safe operation and proper maintenance. T F

11. No control can be exercised over the construction and maintenance of haul roads. T F

12. Machinery and equipment shall be provided with safe access and guarded work platforms as deemed necessary. T F

13. Machinery and equipment shall be shut down and made inoperative for servicing. T F

14. Hoisted equipment, parts, etc., shall also be cribbed or blocked before men are permitted to work underneath same. T F

15. The use of cranks on hand-powered winches is prohibited. T F

16. Elevated conveyors require no special guarding. T F

17. Conveyor tunnels under stockpiles of material shall be adequately designed and constructed, and open at both ends. T F

18. All electric-driven equipment shall be installed with provision for tagging and locking out the controls while under repair. T F

For answers refer to page 18.

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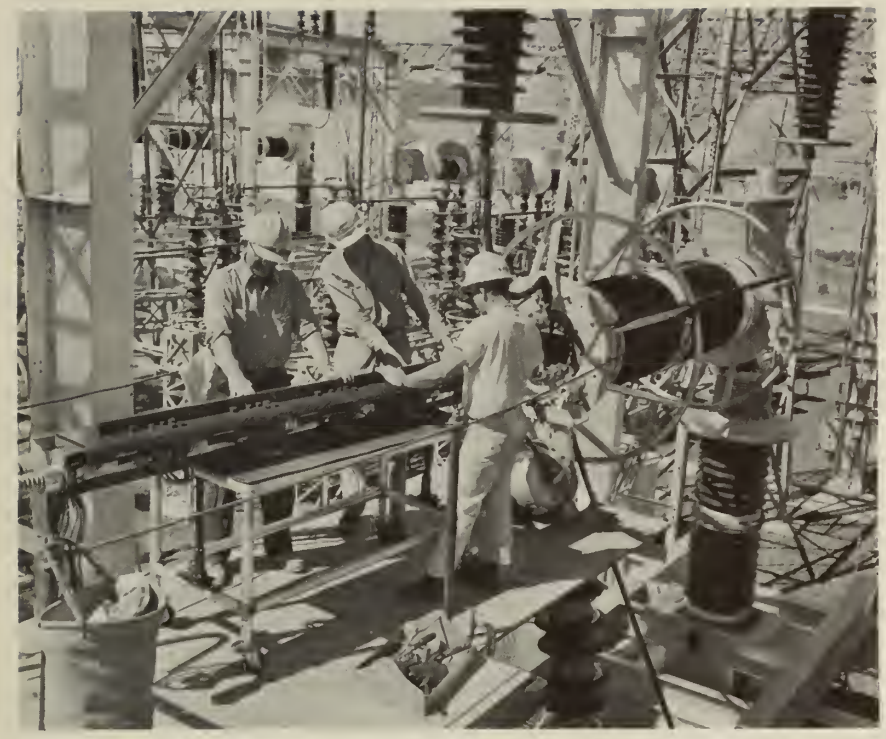

ADJUSTABLE WORKTABLE

The above photo shows the adjustable height worktable being used for oil circuit breaker maintenance. The contact boards on GE, Type FG-230, oil circuit breakers weigh approximately 350 pounds. Prior to the fabrication of this worktable, the boards were removed from the interrupting chamber by positioning two or three men on each side of the board, sliding it out and lifting it on the sawhorses for maintenance. The boards were replaced in a reverse sequence. During the movement of the board, it had to be kept in alinement with the keyway in the interrupting chamber. This required the men to assume awkward positions, with consequent danger of back injuries. The worktable reduces these hazards, and the contact board can be handled safely by fewer men.

This table was fabricated by project personnel from scrap aluminum railing material and surplus automotive-type screw jacks. Reclamation Photo P222-116-14338.

NATIONAL SAFETY COUNCIL
PROPANE SALAMANDERS

The season is approaching when temporary heating will be required on many construction sites to protect wet concrete, new masonry, fresh plaster, and like materials from freezing, and to provide comfort in work areas for employees.

The propane salamander probably is the most popular type of temporary heating equipment used on construction jobs. It does not give off the amount of objectionable fumes and gases that either a solid-fuel or oil-fired salamander does, and it is easier to control because of its adjustable valves.

It must be borne in mind, however, that proper installation, operation, and maintenance of such equipment are necessary if accidents and fires are to be avoided. Some localities have regulations governing the use of liquefied petroleum gases as fuel for space heaters. Such regulations should be checked and observed.

In localities where no rules exist, the following are suggested as minimum recommendations.

1. Only shipping cylinders approved by the Interstate Commerce Commission and of a capacity not exceeding 100 pounds should be used as containers for liquefied petroleum gases. In addition, the valve on each cylinder, during storage or when otherwise not in use, should be protected by a permanent cap or other device that will shield the valve against damage.

2. Only heaters approved or listed by a nationally recognized testing laboratory, and so labelled, should be used. Each heater should be equipped with a positive shutoff safety valve.

3. Each cylinder put into use should be supported in an upright position. Where heaters and cylinders are located on the same floor, not more than one cylinder should be used for each 400 square feet of floor space to be heated. When cylinders are placed on a floor below where heaters are in use, not more than one heater should be operated for each 200 square feet of floor space.

4. Only two-braid neoprene hose should be used to connect the supply cylinder to the heater. Such hose should be fitted with threaded hose unions at each end, and the hose with fittings should stand a prepressure test of 250 pounds per square inch. The hose should not exceed 20 feet in length, and it should be protected from damage.

5. Heaters should be placed at least 6 feet away from any cylinder or combustible material, and at least 10 feet away from any tarpaulin cover. Heaters should not be placed on unprotected wood flooring, or used in any unventilated area.

6. No excess storage of LP gas should be permitted in the same area where heaters are being used. Excess cylinders always should be stored in a separate structure constructed of corrugated iron or other fire-retardant material. Such a storage structure should be kept securely locked to prevent unauthorized entry.

7. Effective means of fire extinguishment should be provided on each floor where one or more heaters are used.

8. The placement and operation of heaters should be under the constant supervision of two dependable persons who are trained in their use.

H. EARL FULLILOVE
Building Trades Employers Assn.
of the City of New York

* * * * *

ANSWERS TO SAFETY QUIZ

1.	*(13-5)	T	7.	(10-7)	F	13.	(9-23)	T
2.	(13-12)	T	8.	(10-15)	F	14.	(9-24)	T
3.	(13-17)	T	9.	(10-17)	T	15.	(9-40)	T
4.	(12-24)	T	10.	(9-1)	T	16.	(9-47)	F
5.	(12-1)	T	11.	(9-11)	F	17.	(9-52)	T
6.	(12-1)	T	12.	(9-18)	T	18.	(9-60)	T

*( )Refers to appropriate paragraph of "Safety Requirements for Construction by Contract," Third Edition, September 1962.

AQUEDUCT DIVISION, CANADIAN RIVER PROJECT, TEXAS

Crawler crane during static and performance tests required by Safety Manual. Two sections of 78-inch-diameter concrete pipe weighing approximately 76,000 pounds were being lifted and maneuvered. Work being performed under Specifications No. DC-5863 by R. H. Fulton, contractor. Reclamation photo P662-525-1422.

MOTOR VEHICLE ACCIDENT REVIEW
REGION 7, DENVER, COLORADO

by D. G. Winans, Regional Safety Engineer

I have reviewed 141 reports of incidents in which vehicles assigned to people in Region 7 were involved. I classified 120 of the incidents as reportable motor vehicle fleet accidents; 14 as occurring to properly parked vehicles; and 7 as something other than a vehicle accident. Of the 120 reportable accidents (reportable motor vehicle fleet accidents), I classified 96 as preventable. Some of the 7 incidents which were not properly motor vehicle accidents could have been prevented but not as a part of a program for the prevention of vehicle accidents.

Some information, on other fleets and nationwide experience, appearing in the NSC (National Safety Council) 1962 publications National Fleet Safety Contest Accident Rates and Accident Facts was used for the purposes of comparison.

Table 1

Movement of Bureau vehicle involved in incident					For comparison classification of 808 accidents to a State Police fleet
Movement of Bureau vehicle	Incident		Preventable accidents		
	Number	Percent	Number	Percent	Percent
Totals	141	100	96	100	100
Going straight					
Ahead	(63)	(44)	(47)	(49)	(59)
Passing	4	3	4	4	12
Being passed	2	1	0	0	2
Other	57	40	43	45	45
Turning	(14)	(10)	(13)	(13)	(8)
Right turn	7	5	6	6	2
Left turn	7	5	7	7	3
U turn	0		0		3
Backing	21	15	21	22	5
Stopped in traffic	7	5	2	2	6
Pulling into or leaving curb	4	3	2	2	1
Miscellaneous	18	13	11	11	5
Properly parked	14	10			16

Table 1 shows a classification of the incidents by the movement of the Bureau vehicle at the time of the accident. The Region's experience parallels that of the state police fleet reported on by NSC except in the incidence of backing accidents.

Table 2

Type of accident

Bureau vehicle	Of 120 reportable accidents		For comparison
	Number	Percent	Percent of 808 State Police accidents
Head on	10	8	4
Sideswipe	5	4	20
Right angle	6	5	15
Front end	39	32	27
Rear end	21	17	22
Other	39	32	12

Table 2 shows a classification of the reportable accidents by type of accident. We appear to be doing better than the State Police fleet did on collision accidents with other moving vehicles. Our difficulties appear to occur from losing control on an open road, the big contributor to the "Other" classification in Table 2.

Table 3

Location of incident
(All figures in percent)

	141 incidents with Bureau vehicles	3,521 accidents analyzed by NSC
City and Suburban	(26)	(75)
Intersection	11	27
Nonintersection	15	48
Rural	(32)	(16)
Intersection	4	4
Nonintersection	28	12
Private property	43	9

Table 3 shows a classification of the 141 incidents by location of the incident. Compared to 3,521 accidents classified by the NSC, more of our accidents occurred on rural roads and on private property. Part of this is due to the type of travel; however, a good many of the accidents on private property occurred in a parking lot and comparatively few during off-the-road use.

Types of motor-vehicle accidents and percent contribution of fatalities nationwide 1963.

Table 4

	Percent
Pedestrian accidents	19
Collisions between motor vehicles	40
Noncollision in roadway	32
Collisions with railroad trains	3
Collisions with bicycles	1
Collisions with fixed objects	5
Other collisions (animals, etc.)	less than 1
Urban	28
Rural	72

The States of Colorado, Wyoming, Nebraska, and Kansas in 1962 had death rates ranging from 5.1 to 5.5 fatalities per 100 million vehicle miles. The United States rate was 5.3; that is, we are driving in states that have very near the average rate. Roughly, nationwide 1 out of every 320 accidents resulted in a fatality. Table 4 shows a classification of 40,920 vehicle-accident deaths reported to the NSC in 1962.

The review of Region 7 experience covered 120 reportable accidents which occurred in driving about 27 million miles. There were 2 fatalities in 1 accident making the death rate 7.5 per million miles; 1 out of 120 accidents resulted in fatalities. There were no collisions with bicycles or railroad trains and there was 1 pedestrian accident; otherwise, the accidents were not classified as in Table 4 in this study.

Now considering the 96 preventable accidents in Region 7:

22 occurred while backing (20 were truck vehicles)
- 9 involved a door being open
  - 3 door was not known to be open
  - 6 door was intentionally open
- 8 backing hit a parked vehicle
  - 5 occurred in a parking lot
  - 2 occurred on construction
  - 1 occurred in backing out of a driveway
  - (3 involved not watching the front end of the backing vehicle)
- 3 backing into a fixed object other than a parked vehicle
- 2 skidded on ice and hit a building

16 involved loss of control or not being able to stop soon enough on a generally icy or snow-packed road (also could be classified as driving too fast for condition of road and vehicle)
  12 trucks, 4 passenger vehicles
  None of the reports on these accidents indicated that tire chains were being used.
5 involved loss of control on an icy spot of an otherwise bare road
  2 trucks, 3 passenger vehicles
17 driver apparently going too fast to adjust to an unexpected road condition or obstruction
  11 trucks, 6 passenger vehicles
7 not properly parked
  3 vehicles left standing with motor running and brakes set
  2 did not set handbrake
  2 parked too close to a hazard on construction
4 ran stop sign or pulled onto highway without looking
7 going ahead, hit a fixed object at low speed
  5 in parking or leaving parking spot
  2 miscellaneous
  (only 1 of the 7 was a case of hitting an object that the driver did not see)
2 going ahead and did not avoid a moving object (other than a vehicle)
1 passing on open road and cut in too quick
3 making a left turn and hit another vehicle
3 off-the-road use and taking a calculated risk
4 miscellaneous

The foregoing breakdown of preventable accidents indicates to me that we should stress backing, use of chains, and control of speed in our prevention program.

If I had used a classification "going too fast for condition of road and equipment," it might well have included half of the accidents. The National Safety Council had the following to say on speed as a factor in vehicle accidents:

> "Speed does not always mean 70 m.p.h. It can also mean 30 m.p.h. - or less - in a congested area. More than half of the fatal accidents in urban areas occurred at speeds under 30 m.p.h.
>
> 'Speed too fast' was a contributing factor in 34 percent of all fatal accidents in 1962; it was a factor in 27 percent of the urban accidents and 36 percent of the rural accidents.

Of 34,500 fatal accidents which occurred during the year, the above percentages indicate that speed was a factor in 11,500 of these - 3,000 in urban areas and 8,500 in rural areas.

In injury and property damage accidents, speed was the principal contributing factor in those which occurred in rural areas.

Improper Driving

In most motor vehicle accidents, improper driving of one kind or another is a contributing circumstance. In fatal accidents, it is principally speed, with driving left of center line next, although less than half as important. In injury and property damage accidents, the principal circumstance is following too closely; in injury accidents, speed and failure to yield right-of-way are next, and of about equal importance; in property damage accidents, failure to yield right-of-way is second and speed is third. The principal circumstance in urban areas which contributes to the overall accident total is failure to yield right-of-way; in rural areas it is speed.

Urban-Rural Deaths

Urban Areas. Nearly half of those fatally injured in urban areas were pedestrians. The second most important cause of motor vehicle deaths was collisions between motor vehicles.

Rural Areas. Almost half of the deaths in rural areas were caused by collisions between motor vehicles. Second in importance were fatalities resulting from noncollision accidents. In 1962, there were 29,400 persons killed in rural motor vehicle accidents and 11,500 killed in urban motor vehicle accidents.

Occupant Fatalities, Small Cars vs. Larger Cars

Occupant fatalities in small cars occur at a rate two-thirds higher than the rate of larger passenger cars, according to a study of accidents in Illinois made by the Illinois Division of Highway. Both drivers and passengers of small cars have higher accident rates, as shown in the table below. The rates are based on numbers of vehicles rather than miles traveled because mileage data are not available. It is believed though, that small cars average less travel per car than larger passenger cars, in which case mileage rates would show even greater variations.

Vehicle Size	No. of Vehicles	Deaths					
		All Occupants		Drivers		Passengers	
		No.	Rates*	No.	Rates*	No.	Rates*
Small Cars**	246,927	155	6.3	93	3.8	62	2.5
Larger Cars***	3,141,844	1,195	3.8	721	2.3	474	1.5

Source: Illinois Division of Highway, Bureau of Traffic, Special Study, 1961; U.S. Bureau of Public Roads.
*Number of deaths per 10,000 registered vehicles.
**Small cars: under 2,800 pounds.
***Passenger cars only."

Why were the drivers going too fast? The accident reports don't answer this question. There are many possibilities, for example:

Self-imposed hurry-up
Misjudging road conditions as a result of a lack of driving experience
Inattention
Faulty vision
Slow reaction time
Poor manipulation of the vehicle
A feeling of well being
or, "it can't happen to me" attitude.

Most of the causes of accidents could be listed; that is, correction is a part of the overall safety program as well as the vehicle safety program.

Work on correcting the possible causes is going on continually in the whole safety program, however, the record indicates to me that by stressing the use of tire chains on snow and ice, we can prevent some accidents without correcting the basic cause. The situation is comparable to wearing a hardhat instead of removing all of the overhead hazards.

The backing accidents are particularly interesting in that nearly all of them were with trucks, i.e., something other than a sedan or station wagon. Most of the drivers were incidental operators but the accident reports don't answer the questions of whether the drivers were regularly driving the vehicles or not and to what degree a lack of experience contributed to the accident.

I was convinced before making this review that the occasional driver was more apt to have an accident than a driver who drove

100 days a year or more. I still hold that opinion. The backing accidents substantiate the opinion to some extent.

It is noteworthy that except for a couple of accidents the mechanical condition of the vehicle was not a factor in causing the accident.

The eight recommendations made at the April 19 meeting of the committee still appear to me to be justifiable precautions. The accident reports reviewed in this study do not indicate, and were not expected to indicate, the number of accidents in which physical limitations of the driver contributed to causing the accident. The physical condition of the driver at the time of the accident just is not known. On the question of driving ability, the accident reports are not conclusive as to the number of accidents which might have been prevented by stricter driving examinations. That is, the eight recommendations made at the April 19 meeting are neither supported nor refuted by the study and still appear to me to be justifiable precautions.

This study indicates to me that our experience is not radically different than National experience and that we would be well advised to be guided by the recommendations of the people analyzing national records. They are using thousands of accidents as a background to tens of accidents that we use in a Regional analysis.

* * * * *

GPO 836-914

DFG-31
7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH August 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	245	43,120	331,856							0.0	0.0		0	0
Denver Office	1,432	260,656	1,972,040	1	3		2	16	3.8	1.5	0.5	8	8	14
Alaska District	44	6,952	47,111	1	1		1	1	143.8	21.2	24.0	144	21	96
REGION 1														
Boise Regional Office	174	26,378	208,927							0.0	0.0		0	0
Central Snake Projects	50	7,687	56,073		1			10		17.8	16.2		178	16
Chief Joseph Dam Project	36	5,830	54,229							0.0	0.0		0	0
Coeur d'Alene Project	18	2,520	22,633							0.0	0.0		0	0
Columbia Basin Project	862	151,712	1,190,512	1	3		6	16	6.6	2.5	8.3	39	13	114
Hungry Horse Project	56	9,704	72,260							0.0	26.7		0	414
Lower Columbia Development	46	7,011	49,034	1	2		3	23	142.6	40.8	0.0	428	469	0
Minidoka Project	147	20,904	185,158		2			21		10.8	20.6		113	93
Rogue Project			5,202							0.0	0.0		0	0
Snake River Development	47	7,485	57,754							0.0	16.9		0	10,134
The Dalles Project	35	6,195	46,471							0.0	0.0		0	0
Upper Columbia Development	42	6,542	51,683		2			10		38.7	0.0		193	0
Vale Project	20	3,641	26,634							0.0	0.0		0	0
Yakima Project	29	4,729	35,917		1			4		27.8	28.1		111	84
Totals and Averages	1,562	260,338	2,062,487	2	11		9	84	7.7	5.3	9.1	34	41	380
REGION 2														
Sacramento Regional Office	619	108,944	817,536		5			221		6.1	7.2		270	30
Folsom Field Division	60	9,872	83,320							0.0	0.0		0	0
Fresno Field Division	149	26,224	202,824		1			41		4.9	9.6		202	134
Shasta Field Division	125	22,087	157,746		1			19		6.3	6.2		120	595
Tracy Field Division	183	32,877	254,445		2			95		7.9	11.9		373	345
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	29	5,144	42,709							0.0	0.0		0	0
Lahontan Basin Project	29	5,104	36,008							0.0	0.0		0	0
Red Bluff Office	114	20,064	155,584		1	1		6,000		6.4	0.0		38,564	0
San Luis Unit	483	88,200	550,257	2	6		52	116	22.7	10.9	0.0	590	211	0
Trinity River Division	151	25,368	260,924		3			38		11.5	2.5		146	15,160
Willows Field Office	34	5,984	26,128							0.0	--		0	--
Totals and Averages	1,976	349,868	2,610,548	2	19	1	52	6,530	5.7	7.3	5.1	149	2,501	2,438
REGION 3														
Boulder Regional Office	144	25,344	191,040							0.0	0.0		0	0
Boulder City Development	15	2,640	16,104							0.0	--		0	--
Boulder Canyon Project	155	27,280	214,660		2			53		9.3	13.6		247	40
Colorado River FW&LS	85	13,936	101,541		2			8		19.7	20.6		79	72
Parker-Davis Project	310	54,415	383,612		1			11		2.6	2.6		29	11
Phoenix Development	134	16,080	134,334		2			231		14.9	13.1		1,720	13
Southern California Development	26	4,619	21,133							0.0	0.0		0	0
Yuma Projects	208	44,849	221,154							0.0	10.7		0	27
Totals and Averages	1,077	189,163	1,283,578		7			303		5.5	7.9		236	93
REGION 4														
Salt Lake Regional Office	311	51,095	446,423	1	1		30	30	19.6	2.2	0.0	587	67	0
Emery County Project	40	7,031	53,153							0.0	0.0		0	0
Central Utah Projects	148	25,278	182,000		1			20		5.5	13.9		110	1,082
Curecanti Unit	102	17,837	125,228							0.0	10.2		0	61,271
Flaming Gorge Unit	135	23,336	176,334							0.0	5.1		0	1,372
Glen Canyon Unit	341	59,916	490,426		1			14		2.0	6.5		29	1,698
Navajo Unit			8,603							0.0	11.3		0	113
Power Operations Office	24	3,743	7,870							0.0	--		0	--
Transmission System Office	75	13,200	107,046		1			12		9.3	0.0		112	0
Durango Projects	81	15,380	114,497		1			32		8.7	15.6		279	94
Grand Junction Projects	89	14,224	124,324		2			6		16.1	11.0		48	434
Logan Development	14	2,458	19,150							0.0	0.0		0	0
Seedskadee Project	76	12,754	98,666							0.0	8.6		0	387
Upper Green River Project	18	2,840	24,960							0.0	0.0		0	0
Weber Basin Project	231	40,646	294,906							0.0	0.0		0	0
Totals and Averages	1,685	289,738	2,273,586	1	7		30	114	3.5	3.1	5.8	104	50	3,059
REGION 5														
Amarillo Regional Office	111	26,640	161,700							0.0	0.0		0	0
Albuquerque Development	39	9,108	48,307							0.0	0.0		0	0
Austin Development	64	13,223	92,336							0.0	0.0		0	0
Canadian River Project	160	27,050	206,206							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	37	6,616	68,000							0.0	0.0		0	0
Middle Rio Grande Project	225	56,044	317,648		5			34		15.7	11.3		107	101
Navajo Indian Irrigation Project	64	10,920	59,928		1			2		16.7	--		33	--
Norman Project	84	16,766	106,052							0.0	0.0		0	0
Oklahoma City Development	29	3,989	36,821							0.0	0.0		0	0
Rio Grande Project	280	48,428	379,730		1			7		2.6	9.7		18	58
San Angelo Project	9	1,440	39,202							0.0	15.3		0	758
San Juan-Chama Project	62	10,089	50,439		1			5		19.8	--		99	--
Wichita Project	60	16,951	92,765							0.0	16.7		0	17
Totals and Averages	1,224	247,264	1,659,134		8			48		4.8	6.9		29	101
REGION 6														
Billings Regional Office	256	41,139	312,467							0.0	3.4		0	3
Canyon Ferry Project	21	3,001	24,478		1			18		40.9	0.0		735	0
East Bench Project	74	12,254	91,556							0.0	0.0		0	0
Fort Peck Project	36	5,412	45,663		1			11		21.9	0.0		241	0
Missouri-Oahe Projects	271	43,360	349,196	1	4	1	2	6,051	23.1	11.5	8.6	46	17,328	708
Missouri-Souris Projects	119	17,491	163,288		2			12		12.2	5.3		73	32
Power System Operations	39	9,360	57,520							0.0	0.0		0	0
Riverton Project	32	5,115	40,093	2	2		162	162	391.0	49.9	0.0	31,672	4,041	0
Upper Missouri Projects	84	14,204	110,565							0.0	22.2		0	207
Yellowtail Project	141	21,275	162,457							0.0	13.8		0	165
Totals and Averages	1,073	172,611	1,357,283	3	10	1	164	6,254	17.4	7.4	7.3	950	4,608	224

(Continued next page)

CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

* FATALITIES INCLUDED IN TOTAL DISABLING

GPO 849881

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH August 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	177	31,152	236,032							0.0	0.0		0	0
Denver Development	32	5,632	40,584							0.0	0.0		0	0
Fryingpan-Arkansas Project	107	28,958	94,846	1	2		4	404	34.5	21.1	--	138	4,260	--
Kansas River Projects	327	57,552	452,776							0.0	2.2		0	17
Niobrara-Lower Platte Projects	283	50,940	383,420		1			6		2.6	0.0		16	0
North Platte River Projects	334	53,520	419,921					10		0.0	0.0		24	0
South Platte River Projects	174	27,840	224,744		2			12		8.9	4.2		53	59
Totals and Averages	1,434	255,594	1,852,323	1	5		4	432	3.9	2.7	1.1	16	233	12
CONSOLIDATED TOTALS	11,802	2,075,304	15,449,946	11	71	2	262	13,782	5.3	4.6	5.2	126	892	989
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

G-31
-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 62 THROUGH August 31, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
ef Joseph Dam Project	20	3,010	16,241							0.0	0.0		0	0
umbia Basin Project	99	13,401	139,187							0.0	6.5		0	19
ur d'Alene Project	5	274	33,144							0.0	--		0	--
idoka Project	5	278	1,507							0.0	0.0		0	0
gue Project			8,437							0.0	0.0		0	0
ake River Development			24							0.0	--		0	--
e Dalles Project	105	1,725	57,076							0.0	--		0	--
le Project	5	104	56,246							0.0	41.9		0	566
ngry Horse Project	21	1,962	3,227							0.0	0.0		0	0
kima Project	12	1,180	13,273							0.0	0.0		0	0
Totals and Averages	272	23,934	328,362							0.0	9.7		0	97
REGION 2														
stribution System Projects			18,390		2			15		108.8	44.8		816	1,108
Dorado Distribution			11,399							0.0	64.8		0	612
esno Field Division			8,711		2	1		6,021		229.6	--		691,195	--
math Project			1,590							0.0	0.0		0	0
Bluff Office	182	36,080	205,080		1			21		4.9	36.8		102	1,372
n Luis Unit	1,009	171,252	662,638	3	10		29	239	17.5	15.1	0.0	169	361	0
cy Field Division	4	240	7,975							0.0	0.0		0	0
inity River Division	111	16,953	333,517	1	12		7	6,142	59.0	36.0	45.3	413	18,416	1,109
Totals and Averages	1,306	224,525	1,249,300	4	27	1	36	12,438	17.8	21.6	44.2	160	9,956	1,020
REGION 3														
lorado River FW&LS	19	2,003	19,609							0.0	0.0		0	0
ker-Davis Project	101	12,350	71,489		2			95		28.0	0.0		1,329	0
penix Development			2,600							0.0	0.0		0	0
ma Projects	49	6,392	8,464	1	1		600	600	156.4	118.1	17.4	93,867	70,888	452
Totals and Averages	169	20,745	102,162	1	3		600	695	48.2	29.4	8.4	28,923	6,803	219
REGION 4														
ntral Utah Projects	1	8	8,487							0.0	61.2		0	2,508
recanti Unit	464	99,884	481,072	3	12	1	6,027	6,228	30.0	24.9	14.2	60,342	12,787	128
ming Gorge Unit	567	104,402	712,418	3	18	2	84	12,926	28.7	25.3	7.4	805	18,144	5,886
en Canyon Unit	1,583	299,431	2,225,841	7	38	2	6,725	13,381	23.4	17.1	20.2	22,459	6,011	856
ajo Unit			32,081							0.0	15.8		0	460
ery County Project	125	22,632	36,198	1	2		8	14	44.2	55.3	0.0	354	387	0
rida Division	277	57,879	216,351		5	1		6,135		23.1	29.6		28,357	736
nd Junction Projects			11,292							0.0	22.3		0	361
dskadee Project	367	79,187	444,322		3	2		12,090		6.8	8.9		27,209	213
er Basin Projects	472	97,655	427,950	1	5		5	39	10.2	11.7	41.8	51	81	25,367
Totals and Averages	3,856	761,079	4,596,012	15	83	8	12,849	50,813	19.7	18.1	17.9	16,883	11,056	2,986
REGION 5														
arillo Regional Office			8,177							0.0	0.0		0	0
stin Development			1,223							0.0	--		0	--
adian River Project	484	97,681	619,721	2	5		14	47	20.5	8.1	26.5	143	76	483
er Rio Grande Rehabilitation	190	23,190	115,499		1			2		8.7	41.5		17	302
man Project	153	31,911	150,314							0.0	0.0		0	0
ahoma City Development			2,471							0.0	--		0	--
Grande Project	2	112	7,553							0.0	--		0	--
n Angelo Project			50,889							0.0	28.6		0	16,066
n Juan-Chama Project	11	2,653	2,653							0.0	--		0	--
chita Project	162	33,275	230,298		1			17		4.3	0.0		74	0
Totals and Averages	1,002	188,822	1,188,798	2	7		14	66	10.6	5.9	30.4	74	56	9,502
REGION 6														
t Bench Project	303	48,602	251,488	2	13		190	296	41.2	51.7	46.9	3,909	1,177	802
ssouri-Oahe Projects	215	29,586	113,656	2	6		66	98	67.6	52.8	29.0	2,231	862	21,829
ssouri-Souris Projects	170	18,142	119,954	1	3		10	77	55.1	25.0	36.5	551	642	1,947
erton Project	5	556	10,841							0.0	0.0		0	0
er Missouri Projects	4	232	10,867		1			3		92.0	0.0		276	0
lowtail Projects	762	131,019	724,084		4	4		24,000		5.5	14.3		33,145	470
Totals and Averages	1,459	228,139	1,230,890	5	27	4	266	24,474	21.9	21.9	24.7	1,166	19,883	5,813
REGION 7														
ringpan-Arkansas Project	3	559	2,710							0.0	--		0	--
ass River Projects	315	68,397	405,441		2			215		4.9	10.9		530	5,586
obrara-Lower Platte Projects	512	125,176	538,140	4	7		49	58	32.0	13.0	16.0	391	108	112
th Platte River Projects	15	1,406	9,891							0.0	86.7		0	1,040
th Platte River Projects	7	264	3,966							0.0	0.0		0	0
Totals and Averages	852	195,802	960,148	4	9		49	273	20.4	9.4	14.7	250	284	2,232
CONSOLIDATED TOTALS	8,916	1,643,046	9,655,672	31	156	13	13,814	88,759	18.9	16.2	23.1	8,408	9,192	3,690
TOTALS LAST YEAR (19 62)	8,141		16,509,276		353	9		76,799		21.4			4,652	

* FATALITIES INCLUDED IN TOTAL DISABLING

GPO 848831

SAFETY RECORD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

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September 1963

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TABLES

Safety Performance Record

Government--January - September 1963	21-22
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Front Cover Photo: Safety award earned by Power Division employees, Watertown Field Unit, Region 6. Refer to Page 8. Reclamation photo PX-D-40975NA.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
January 1 - September 30, 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 7	2.4	207	5.0	3.4
Region 4	3.1	48	1.5	3.3
Region 5	4.3	26	1.1	4.6
Region 1	6.1	2,667	162.7	1.8
Region 3	6.2	244	15.1	3.6
Region 6	6.6	4,118	271.8	2.5
Region 2	7.5	2,264	169.8	5.4
Alaska District	18.6	19	3.5	0.0
Totals to date	4.6	1,152	53.0	3.6
Totals last year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	0.0	0	0
Region 5	7.9	79	0
Region 7	11.4	377	0
Region 4	17.4	9,840	8
Region 6	18.2	16,498	4
Region 2	20.3	12,134	2
Region 3	30.3	5,497	0
Totals to date	15.7	8,501	14
Totals last year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date: September 30, 1963

A. ACCIDENT CLASSIFICATION:

Type	Description	No.	Days lost
2	Aircraft	1	6,000
5	Vehicles	7	12,288
7	Explosions	1	6
9	Electricity	3	27
12	Handling Material	20	814
13	Falling Objects	3	19
14	Falls of Persons	14	291
15	Jumping to Places	2	5
16	Striking Against	2	3
17	Flying Particles	3	37
18	Handtools	6	52
19	Machinery	3	138
20	Not otherwise classified	15	271
	Totals	80	19,951

B. OPERATIONAL SUMMARY:

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	4,119,194	3	17	0.7	4
Construction	4,423,855	18	6,252	4.1	1,413
Design	1,835,705	2	11	1.1	6
Investigation	2,178,841	24	995	11.0	457
O&M-Irrigation	2,110,516	17	514	8.0	243
O&M-Power	2,643,213	16	12,162	6.0	4,601
Totals	17,311,324	80	19,951	4.6	1,152

C. SERIOUS ACCIDENTS: (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000
9-12-63	Guard	Vehicle accident (drowning)	6,000

ACCIDENT REVIEW

BELT LOADER

Employer: Contractor
Activity: Repairing portable belt loader.
Accident Situation and Occurrence: Both the light plant and the mechanical belt loader were down for repairs. Without the light plant, workmen were using pocket flashlights to accomplish the work. A crew of two electricians were working on the light plant while two mechanics were repairing the belt loader. An electrician went up on the end of the loader to replace a burned out bulb. The mechanics started the motor on the loader and apparently threw in the clutch that activated the belt. The electrician, who was standing on the belt at the time, was thrown off the end of the loader approximately 17 feet to the ground. He received fatal injuries.
Cause Determination: Cause of the accident was due to working without adequate emergency floodlights and failure of the electricians to lock out the motor controls on the loader. No walkway was provided along the belt loader to permit safe inspection and maintenance of the equipment.

BOOM FAILURE

Employer: Contractor
Activity: Clipping transmission conductors using high lift rig.
Accident Situation and Occurrence: A line clipping crew were using a high lift rig to reach their work. Three linemen were in the basket (platform) with the boom extended 70 feet overhead at an angle of 50° from the horizontal. Suddenly the boom section failed, causing the platform and crew to fall 70 feet to the ground. One of the linemen was fatally injured.
Cause Determination: The high lift rig had been purchased new and was in use for about 90 days on this type of work. There was no extra load on the boom at the time of the failure. The weight of the three men and tools on the platform was estimated at less than 600 pounds. The boom has been shipped to the manufacturer for examination and tests to determine the cause of the structural failure.

VEHICLE

Employer: Government
Activity: Driving vehicle across open land.

Accident Situation and Occurrence: Employee was passenger in pickup being driven across open land. The vehicle dropped into and bounced out of a small gully. The sudden jar resulted in a back injury to the passenger with 9 days lost time.
Cause Determination: Alertness and caution must be exercised when driving off highways. Use of a seat belt might have prevented this injury.

FALLING TREE

Employer: Contractor
Activity: Clearing trees from area.
Accident Situation and Occurrence: A chain saw operator was trimming a fallen tree while another employee was cutting down a tree nearby. The tree fell in the wrong direction and struck the chain saw operator on the shoulder and knee. Fractured knee with estimated lost time of 90 days.
Cause Determination: Failure to follow standard logging practice by working employees too close together.

RADIATOR CAP

Employer: Contractor
Activity: Removing radiator cap.
Accident Situation and Occurrence: The operator was removing a radiator cap on a bulldozer that had overheated. Steam burned right arm causing 3 days lost time. Employee should have allowed radiator to cool before removing cap.

* * * * *

CREDIT NOTE

Reference is made to the photo and article on page 16 of the August Safety Record. Fabrication and use of the adjustable worktable should have been credited to the Bureau's Power Field Division employees at Coulee Dam.

* * * * *

WATER SAFETY

Kansas River Projects: The Water Safety Council of the Great Lakes of Nebraska met August 20 and elected new officers, arranged for a water safety program at City Auditorium, received a report from the State of Nebraska that storm warning beacon lights will be installed at some reservoirs, inspected the recently purchased mobile rescue unit, adopted a policy of continued support of public water safety education, resolved that the public be informed that the Council discourages unsupervised swimming in reservoirs and canals, agreed with state authorities that buoyed areas for swimming (without supervision) were undesirable, and received the "Bylaws and Constitution" prepared by Ralph Meager. Mr. Meager suggested that Council activities be expanded to include accident prevention for the city of McCook and Red Willow County.

South Platte River Project: The Northern Colorado Water Safety Council met on August 20 to draft a constitution and bylaws and to discuss Council activities pertaining to publicity, swimming, education and general program. Mr. Simon was guest speaker at meetings of the Larimer County Chapter American Red Cross and the Big Thompson Canyon Association. The Resusci-Anne recently purchased by the Project was used to present demonstrations of mouth-to-mouth resuscitation.

Niobrara-Lower Platte Projects: Officers of the Sherman-Howard County Water Safety Council and C. A. Currie met with representatives of the Nebraska Department of Health and Boating to formulate future objectives of the Council. Messrs. R. Fitch and C. A. Currie presented a 45-minute program on water safety to 27 rural school teachers at Ainsworth, Nebraska, for the Brown County Water Safety Council.

Riverton Projects Office: Mr. Edward Craren, Red Cross Safety Services representative, met with Mr. C. A. Erickson and Project personnel on September 13 to discuss the Operation Westwide program. It was decided that the next step should be a meeting with representatives of the three Red Cross Chapters in Fremont County set for the first week of October.

Kansas River Projects: The Water Safety Council of the Great Lakes of Nebraska held a special meeting at the McCook city auditorium the evening of September 9 with 65 persons in attendance. This was a public water safety instruction course presented by Mr. Dudley Osborne of the State Game Commission. The 2-1/2-hour course consisted primarily of state boating laws and practices.

Also covered were safe practices to be followed in water skiing and swimming.

Minidoka Project: Two meetings were held during the month by the Minidoka and Cassia County Water Safety Council. The first meeting on September 6 was devoted to discussion and adoption of the Council's bylaws. On September 18, a public meeting was held to gain support from the general public. Regional Safety Engineer H. E. Wersen was the featured speaker.

* * * * *

FROM THE FIELD

Wichita Project: Tubular steel type scaffolding is used for concrete placement of the footbridge pier. Access ladders with offset platforms were installed and standard guardrails used at the top where concrete placement was performed.

Red Bluff Office: A safe driving conference was held with 25 Bureau employees at Red Bluff on September 24. In addition, a 30-minute defensive driving film "Lost Picnic" was shown.

Rio Grande Project: The Project Safety Advisor stated that past experience has shown a rise in the number of accidents at this time of the year. This is believed due primarily to assigning operations personnel to maintenance work during the winter months. Since maintenance work presents different hazards, closer supervision and additional safety measures will be required.

Canyon-Ferry Project: Safety precautions were taken in isolating the working area in the switchyard where the OCB maintenance is in progress.

San Juan-Chama Project: A total of 10 supervisory on-the-job safety meetings were held by the Chama Field Division. The topics discussed included equipment that should be carried in the field vehicles such as chains, reflectors, etc., type of footwear best suited to rough rocky terrain; windshield scrapers for frost; safe driving; safe use of axes, chain saws; and reporting of minor injuries.

Hungry Horse Project: Fire hydrants in the camp are being checked and regasketed. Since the new firetruck will not be received until December, it was agreed that the present firetruck be brought up to the powerplant and one safety meeting devoted to training employees in operation of the pump. Training in operation of the new resuscitator and the new Scott air packs will be given during future safety meetings.

Central Utah Projects: The film entitled, "No One Else Can Do It," which emphasized the supervisors' responsibility for safety was shown. Pamphlets entitled, "Skid Stuff," describing how to drive safer and easier on ice and snow were furnished each supervisor for distribution to crew members.

Curecanti Unit: Twenty-two Johnson-MK and one Reclamation employee received U.S. Bureau of Mines first-aid certificates.

These men attended a course conducted by the Colorado Bureau of Mines and Industrial Commission at Montrose for 2 hours per night from September 30 through October 4.

San Luis Unit: Morrison-Knudsen, Utah, Brown and Root held 3 classes of first-aid instruction, 1 for each of the 3 shifts. The contractors now have 97 foremen and supervisors with current first-aid cards.

Amarillo Regional Office: On September 17, 1963, the Regional Safety Officer participated in the formal program at a meeting of the South Central States Boat Law Administrators Association held in Denver, Colorado. The states participating in this Association are Nebraska, Kansas, Colorado, Oklahoma, Arkansas, Louisiana, Texas, and New Mexico. Throughout the meeting there was emphasis on the need for adequate, simple, and uniform boating laws as well as an effective public educational program.

Trinity River Division: At the monthly Supervisory Safety Committee meeting held on September 25, the Project Construction Engineer stressed the necessity of reporting and correcting violations of construction safety requirements.

* * * * *

SAFETY AWARD TO WATERTOWN FIELD UNIT

The employees of the Power Division, Watertown Field Unit, Missouri-Oahe Projects, traveled 501,115 miles without a motor vehicle accident during the period May 28, 1958, to June 1, 1963.

The front cover photo shows Project Manager M. E. Von Seggern and Freddie Baltezore, Line Foreman of the Watertown Field Unit, displaying the Department's Certificate of Safety Achievement for one-half million accident-free miles driven by the Power Division crew. Standing are Projects Safety Engineer Newton Staley, Anthony Poelstra, Virgil Kremer, Victor Lane, Floyd Tubandt, Robert Madsen, and Regional Safety Engineer Larry Hayes. Kneeling are D. E. McAllister, Allen Braund, Earl Foster, and Kaehl Volesky.

SAFETY AWARD TO NORTH PLATTE RIVER PROJECTS

Project Manager, Safety Officer, and members of Projects Safety Committee shown with the Department of the Interior Certificate of Safety Achievement Award earned by the employees of the North Platte River Projects. Project personnel attained 679,110 man-hours of work without a lost-time injury during the period November 11, 1961, through December 31, 1962. Left to right in photo are C. H. Saunders, Safety Officer; M. M. Starr, Chief Engineering Division; R. M. Sensintaffar, Project Manager; P. F. Anker, Chief, Irrigation Division and Chairman of Safety Committee; and R. D. Asbridge, Chief, Power Division, Reclamation photo P144-703-3545.

CALIFORNIA NOISE CONTROL REGULATIONS

ARTICLE 55. STANDARDS FOR NOISE CONTROL

3870. Purpose. Article 55 sets up minimum standards for the control of and exposure to excessive industrial noise in order to contribute to the conservation of employees' hearing.

3871. Engineering Control of Noise. Whenever the operations reasonably permit, exposures to excessive noise shall be eliminated or at least reduced by engineering or operational controls.

3872. Personal Protective Equipment. (a) When to be Worn. Whenever the exposure to noise equals or exceeds the levels given in Table I, Appendix A, the employer shall provide and the employees shall use acceptable ear protectors. (b) Education in Use of Equipment Required. The employee shall be informed of the locations where the wearing of ear protectors is required and shall be instructed in the use of such ear protectors. (c) Provision and Care of Equipment. Duty of Employer and Employee. It shall be the duty of the employer to provide such ear protectors as may be required and to replace them when necessary. It shall be the duty of the employee to properly use such equipment provided for him and to exercise due care to keep same in efficient and sanitary condition.

APPENDIX A

Because of the wide physiological response to noise, compliance with these orders may not prevent hearing loss to all employees, but should provide an environment where the exposure to noise is controlled to the degree that employment therein is considered reasonably safe.

If an employee is exposed to noise for 5 or more hours per normal workday, the levels shown in Table I are the levels at and above which the wearing of hearing protectors is mandatory. For employees whose exposure to occupational noise is less than 5 hours per day, the noise levels may be 3 decibels higher for each halving of the exposure time; e.g., for an exposure of 2-1/2 hours, the noise levels encountered may be 3 decibels higher in all frequency ranges than the values shown in Table I; if the exposure time is 1-1/4 hours per day, the noise level may be 6 decibels higher than Table I before the ear protectors must be worn.

The noise levels are to be obtained by sound-measuring equipment having the characteristics outlined by the American Standards Association, Incorporated, or equivalent standards.

TABLE I

Frequency band cycles per second	American standard preferred frequencies for acoustical measurements	Octave band sound pressure level decibels (re: .0002 dynes/sq cm)
20 - 75	63	110
75 - 150	125	102
150 - 300	250	97
300 - 600	500	95
600 - 1,200	1,000	95
1,200 - 2,400	2,000	95
2,400 - 4,800	4,000	95
4,800 - 10,000	8,000	95

* * * * *

OFF THE JOB ACCIDENTS

Fred S. Cameron, Safety Consultant
Ebasco Services, Inc.

WHAT WOULD YOU DO IF--

Your son, experimenting with his chemistry set, squirted sulphuric acid in his eye? You should concentrate on getting a doctor and washing the acid out by pouring cupfuls of water into the inner corner of the eye and covering it with a sterile gauze.

An elderly woman near you has a bad fall on the ice? Don't follow that impulse to get her to a doctor. Get the doctor to her--where she is. A minor injury can become serious if a broken bone pierces a vital organ when a victim is moved.

You are cooking and your clothing is ignited by an oven flashback? Would you run to the bathroom shower, run for help, or try to smother the flames by rolling on the floor (preferably in something heavy like a rug)? Running fans the flame.

The man next door, while putting up a TV antenna, let it fall across a live wire and collapsed with the "hot" antenna in his hand? Don't touch him. Knock the antenna from his hands with a dry unpainted stick or dry clean rope. When his body is free of electrical contact, start artificial respiration immediately.

Your car with you in it plunges into a lake? Don't panic. Wait until the car floods enough to equalize the inside and outside pressures. Take a deep breath from the ribbon of air that usually remains under the roof of a submerged car, open the door and float to the surface. Needless motion exhausts you and the available air.

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication "Safety Requirements for Construction by Contract," Third Edition, September 1962.

1. When construction operations are performed during hours of darkness, adequate lighting shall be provided in all work areas. T F

2. Tractors and dozers used in clearing operations shall be provided with adequate steel cabs to protect the operator from falling trees and branches. T F

3. Burning in connection with clearing operations is not a pay item and is, therefore, no concern of the Bureau. T F

4. Necessary provisions are contained in the safety handbook to insure excavation operations can be performed without risk of cave-in. T F

5. Excavation crews shall not be permitted to work above one another where danger of falling rock or other material exists. T F

6. The timber shoring design for trench excavation contained in Figures 8 through 13 shall constitute minimum requirements. T F

7. Excavated material shall be placed a minimum of 2 feet from the edge of the trench. Where necessary, barricades may also be required to prevent raveling into the trench. T F

8. Adequate protection shall be provided along open trenches if in areas involving the public. Guardrails or barricades and lighting may be used at the option of the contracting officer. T F

9. Duplex blasting lines are permissible for multiple shots. T F

10. No special precautions are necessary in the transportation of explosives as long as they are in the original container. T F

11. Vehicles containing explosives shall not be taken into a garage for repair or storage. T F

12. The storage of explosives shall be in accordance with State and Federal regulations and meet the approval of the contracting officer. T F

13. Magazines shall not be used for the storage of other material. T F

14. Loading shall not be permitted within 50 feet of drilling operations. T F

15. Energized electrical conductors in the immediate area of electric blasting operations require no special precautions. T F

16. Where the blast may throw material and injure persons or damage equipment, blasting mats shall be required. T F

17. Electric blasting caps in the original containers may be subject to induced currents if in the immediate vicinity of a transmitter. T F

18. If a lightning storm develops, priming and loading shall be discontinued and the area vacated. If time permits, primers in place shall be short circuited. T F

19. Aside from the mandatory use of standard blasting signals, the blasting foreman shall be responsible for removing all personnel to a safe distance before firing a shot. Where necessary, this may include posting of flagmen. T F

20. Firing lines shall be removed after a shot has been fired and the shot shall be carefully examined before workmen are permitted to return to the area. T F

21. Misfires discovered after a blast are of no particular concern since the shock resulting from mucking will be negligible compared to the blast. T F

22. The use of ammonium nitrate as a blasting agent requires special precautions when the air loading method is employed. T F

For answers refer to page 20.

* * * * *

ADMINISTRATION OF THE FEDERAL EMPLOYEES' COMPENSATION ACT

A paper presented by Aubrey V. Ruple, Regional Safety Engineer, Region 5, at Regional Safety Engineers' Conference and Safety Workshop, Denver, Colorado, February 18-21, 1963.

With the arrival of the industrial revolution in England about 1760, production increased; along with it the dangers of the Middle Age. Factories were started; gears, belts, wheels, steam, gas, and electric power multiplied injuries in short order. The workers and the public were not protected in case of injury. Various protective laws were soon enacted. First in Germany and England, then in the United States. With greater industrialization, hazards increased and the need for compensation was recognized. The protection of workers by compensation, legislation, and insurance funds began. The first workers' compensation law was passed in Germany in 1885. Maryland was the first state to adopt compensation in 1902, and Mississippi in 1949, was the last state to adopt compensation.

On September 7, 1916, Congress enacted a law to provide compensation for disability and death and full medical care for civilian employees of the United States Government who suffered injuries in the performance of their duties. The act which is known as the Federal Employees' Compensation Act has provided substantial relief for injured Federal employees since its enactment and has been modernized many times by amendments to afford greater liberalized benefits and increased coverage. Basically, the law provides medical and financial benefits covering all injuries and diseases resulting from employment, with the exception of injury or death caused by willful misconduct of the employee, injury or death of an employee caused by his intention to bring about the injury or death of himself or another; or injury or death resulting from intoxication of the injured employee. The injured employee is entitled, without cost to him, to first aid and full medical care for the injury, including hospitalization, transportation, drugs, and supplies; however, he must use the Government medical facilities and designated private physicians when they are available. Any duly qualified physician may render medical treatment in all cases of injury where emergency treatment is necessary. Further treatment, if necessary, should be obtained as soon as practicable from a medical officer of the United States or from a designated physician where available. The basic financial benefits to an injured employee who loses more than 3 days without pay provide for monthly payments between a minimum of $180 and a maximum of $525.

The Act is administered by the Bureau of Employees' Compensation of the Labor Department which operates from five offices located throughout the United States. During the calendar year 1961, the Bureau of Employees' Compensation paid out $35,353,035, having processed 100,808 claims for personal injuries which resulted in 2,763,784 days lost. There were 189 fatalities. In 1960, a major amendment was made to the Federal Employees' Compensation Act which provides for all Federal agencies to include in their annual budget estimates a request for funds to repay the Employees' Compensation Fund for cost of benefits paid on account of the injury or death of employees. I might add further that the Bureau of Reclamation was billed $12,533 for their proportionate amount for a 7-month period, December 1, 1960 through the end of fiscal year 1961. As you well know, this is considerably lower than what it will be in the future, as it increased each year due to the accumulation of benefits paid for injuries over the past years. Up until 1960, the Bureau of Employees' Compensation was receiving its funds by appropriations from Congress.

Because the Bureau of Employees' Compensation is administering the benefits for all Federal agencies, it provides regulations necessary for each agency to follow governing the functions of the Act in order that adequate compensation can be provided for all injured employees. The benefits provided, however, are not fully effective when they are unduly delayed by incomplete, inaccurate, or late reporting. Prompt, accurate and complete injury reports are essential. A claim cannot be paid until it is received in the Bureau of Employees' Compensation.

At this time it is well for us to review a few of the basic steps to follow. First, it is important that we know the employees' rights under the Compensation Law. Second, it is important that every occupational injury be reported without delay. Third, we should arrange for first-aid treatment. Fourth, we should see that proper forms are available including Form CA-1 which an employee must use to file a notice of injury. We should see that Form CA-4, Claim for Compensation, is submitted promptly whenever loss of pay is involved and Form CA-4A for augmented compensation if employee has dependents. No compensation is paid without it. Fifth, when in doubt about a claim, we should write directly to the Bureau of Employees' Compensation.

There are 33 forms available for the processing of claims; however, we are primarily interested in only a few of them. I'll briefly discuss with you the forms most commonly used. First, let's take the CA-16 which is a form authorizing and requesting that medical treatment be provided for the injured employee. This is to a designated physician and may be used for hospitals or other facilities.

If there are doubts that the injury is occupationally connected, or if you have doubts that the employee should be treated by the Government, then Form CA-17 should be used in authorizing a designated physician to administer medical care to the injured employee. When a designated physician is not available, then we must use Form 7-1592, alternate for Form CA-16, or Form 7-1593, alternate form for CA-17. A word of caution is appropriate at this time. Should a CA-16 be used in lieu of CA-17 on a doubtful case, chances are the Bureau of Employees' Compensation will accept the case and therefore the agency will bear the expense. Having provided medical attention or medical aid for the employee, it is necessary that we furnish the Bureau of Employees' Compensation two additional forms. Form CA-1, which is the employee's notice of injury and original claim for compensation and medical treatment, should be completed by the employee or someone in his behalf within 48 hours. Failure to do this could mean denial of the claim. A copy of Form CA-1 should be kept as a permanent record in the employee's official personnel folder. Following the completion of Form CA-1, a Form CA-2, which is the Official Superior's Report of Injury, should be completed. The medical statement on the back of CA-2 is not required; however, statements by witnesses should be included on all lost-time cases. It is necessary that the previously mentioned forms be completed on any injury that requires medical attention; however, it is well to note that Forms CA-1 and CA-2 should be completed by an employee and supervisor for any occasion where there is a bill to the Bureau of Employees' Compensation or there is a possibility that the injury might result in future disability.

Occasions where recurrence of disability resulting from an original injury has been more than 6 months since treatment, Form CA-2 should be submitted again. We should mark on the form "Recurrence of old injury." If an employee complains of recurrence of a disability after having recently been discharged from medical treatment on account of an injury recognized as compensable by the Bureau, under circumstances from which it may reasonably be inferred that such disability is the result of such injury, the official superior at his discretion may issue Form CA-16 or alternate for treatment by a physician, provided that not more than 6 months has lapsed since the accident. Any other case in which the employee complains of a recurrence of disability with respect to which there may be doubt or a great lapse of time, the official superior should communicate with the Bureau and request instructions stating all of the pertinent facts. In all cases, the employee should communicate with the Bureau requesting such treatment.

All necessary dental treatment including repairs to false teeth or natural teeth needed to repair damage done by injury will be furnished by the Bureau. However, such treatment shall be rendered

by or upon the order of a United States dental officer when available and practical. If such a facility is not available, no dental work will be authorized without obtaining, in advance, the approval of the Bureau.

Form CA-4 is provided for making an original claim for compensation to an employee who loses more than 3 days. The employee's official superior is designated to receive claims. The injured employee should submit his claim to his official superior for transmission to the Bureau of Employees' Compensation.

An employee may continue coverage under the health benefit act, provided he has been enrolled for 5 years prior to the time of the injury or was enrolled in the benefit plan at the first opportunity of enrollment. This information must appear on CA-4. Include the name of plan and code number and the last day through which deductions were made by the agency, as well as certification by an official superior that the man was enrolled at the first opportunity. If total period of disability is 28 days or less, deductions will not be made from compensation pay. If after 28 days he is still on compensation, the Bureau of Employees' Compensation will go back and deduct for the entire period. If the employee is not enrolled, write "not enrolled" for health benefits on Form CA-4 or write "not eligible to continue for health benefits," if appropriate. Anytime a claim for compensation is granted, it becomes necessary that Form CA-3, Report of Termination of Disability or Return to Work, be submitted. This report shows the period of absence from work and specifically the part of such period of which the employee has been or will be paid on account of leave stating the basis for such wage payment. Notify the Bureau of Employees' Compensation promptly on Form CA-3 when an employee returns to work.

Once an employee is on compensation for disability and his injury results in disability with loss of pay continuing beyond the time covered by the original claim on Form CA-4, the Bureau of Employees' Compensation Commission furnishes the employee Form CA-8 which must be completed and forwarded to the employee's supervisor as well as the physician for statements in order that further compensation can be granted.

If an injury or death from which compensation is payable under the Federal Employees' Compensation Act is caused under circumstances creating a legal liability upon some person other than the United States to pay damages therefor, the Bureau of Employees' Compensation may require the beneficiary to prosecute an action for damages against the third person. The U. S. Department of Labor, Subrogation Branch of the office of the Solicitor, is responsible for supervision of third-party claims. When required by them, such cause

of action shall be prosecuted in the name of the injured employee or his personal representative by attorneys designated or approved by the Bureau.

Miscellaneous Items

A list of physicians should be kept current.

Be sure the injured employee's supervisor notifies the local responsible individual that the injured employee has returned to pay status and active duty.

A claim should be submitted to the Bureau of Employees' Compensation as soon as possible.

An employee has the right of appeal; not the employer.

The Bureau of Employees' Compensation will accept any doctor when the patient has been referred by an authorized or designated doctor.

Don't hesitate to write the Bureau of Employees' Compensation concerning any case.

All forms should be submitted by a letter of transmittal. If there is a point to be stressed, it may be done in the body of the letter.

Expect the Bureau of Employees' Compensation to accept most any favorable case that you present to them.

If an employee himself asks to change doctors, he must write the Bureau of Employees' Compensation and ask for the change, giving his reasons.

It is best that the agency forward the bills to the Bureau of Employees' Compensation; however, in some cases designated doctors are familiar with the procedure and may handle their own cases.

Claims connected with a heart attack should be processed on Form CA-17. A complete description of the type of work the employee was doing should be submitted in order that Bureau of Employees' Compensation can determine if occupationally connected. If employee has a history of heart trouble, Bureau of Employees' Compensation should be informed.

Claims connected with back injuries should be accompanied by the following note if appropriate. "There is no previous history of back trouble on record."

Material That May Help in Administering the Federal Employees' Compensation Act

"Regulations Governing the Administration of the Federal Employees' Act of September 7, 1916, as Amended," is a manual published by the U. S. Department of Labor, Bureau of Employees' Compensation, Washington, D. C. 20211. It is also for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

Form CA-11 entitled, "When Injured at Work," which is also published by the U. S. Printing Office.

"What Every Employee Should Know About the Federal Employees' Compensation Act," is a pamphlet that is also produced by the Bureau of Employees' Compensation. It may also be acquired through the U. S. Government Printing Office.

"How to Help the Injured Employee," which is a handbook for supervisors published by the U. S. Department of the Interior, Office of the Administrative Assistant Secretary, Division of Personnel Management Branch of Safety Engineering.

I have covered what I believe to be the most important points in administering the Bureau of Employees' Compensation Act and expressed a few problems most administrators have or will experience.

In closing, may I emphasize the importance of complete communication between the administrator, the employee and the physician, and between the administrator and the Bureau of Employees' Compensation. The administrator is responsible both to the employee and agency. In the past many cases have been accepted when they shouldn't have been; however, the employee should not be deprived of any benefits due him.

* * * * *

ANSWERS TO SAFETY QUIZ

1.	*8-6	T	8.	14-30	T	16.	15-47	T
	14-4		9.	15-8	F	17.	15-53	F
2.	14-8	T	10.	15-14	F	18.	15-57	T
3.	14-9	F	11.	15-18	T	19.	15-60-61	T
4.	14-10-13	T	12.	15-22	T	20.	15-62-63	T
5.	14-12	T	13.	15-25	T	21.	15-67	F
6.	14-24	T	14.	15-35	T	22.	15-69+	T
7.	14-25	T	15.	15-43-50	F			

*( )Refers to appropriate paragraph of "Safety Requirements for Construction by Contract," Third Edition, September 1962.

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH September 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	240	38,400	370,256							0.0	0.0		0	0
Denver Office	1,440	230,400	2,202,440		3			16		1.4	0.5		7	13
Alaska District	42	6,073	53,184		1			1		18.6	20.8		19	146
REGION 1														
Boise Regional Office			208,927							0.0	0.0		0	0
Central Snake Projects	50	7,377	63,450		1			10		15.8	14.4		158	14
Chief Joseph Dam Project	31	5,325	59,554							0.0	0.0		0	0
Coeur d'Alene Project	18	2,752	25,385							0.0	0.0		0	0
Columbia Basin Project	829	139,272	1,329,784	1	4	1	6,000	6,016	7.2	3.0	8.2	43,081	4,524	106
Hungry Horse Project	56	9,704	81,964							0.0	23.8		0	726
Lower Columbia Development	45	6,427	55,461	1	3		2	25	155.6	54.0	0.0	311	451	0
Minidoka Project	128	22,640	207,798		2			21		9.6	14.0		101	51
Rogue Project	2	328	5,882							0.0	0.0		0	0
Snake River Development	45	7,132	64,886	1	1		3	3	140.2	15.4	15.0	421	46	9,000
The Dalles Project	35	5,904	52,375							0.0	0.0		0	0
Upper Columbia Development	39	6,199	57,882		2			10		34.5	0.0		173	0
Vale Project	20	2,887	29,521							0.0	0.0		0	0
Yakima Project	29	4,176	40,093		1			4		24.9	25.1		100	75
Totals and Averages	1,327	220,123	2,282,962	3	14	1	6,005	6,089	13.6	6.1	8.2	27,280	2,667	354
REGION 2														
Sacramento Regional Office	619	99,040	916,576	1	6		38	259	10.1	6.5	8.6	384	283	84
Folsom Field Division	60	11,022	94,342							0.0	0.0		0	0
Fresno Field Division	151	24,160	226,984		1			98		4.4	17.3		432	208
Shasta Field Division	121	20,049	177,795	1	2		2	21	49.9	11.2	5.6	100	118	537
Tracy Field Division	177	28,175	282,620		2			95		7.1	10.7		336	310
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	27	4,320	47,029							0.0	0.0		0	0
Lahontan Basin Project	28	4,480	40,488							0.0	0.0		0	0
Red Bluff Office	103	16,480	172,064		1	1		6,000		5.8	0.0		34,871	0
San Luis Unit	473	84,054	634,311	1	7		5	121	11.9	11.1	0.0	60	191	0
Trinity River Division	130	20,800	281,724		3			38		10.6	2.3		135	13,803
Willows Field Office	35	5,600	31,728							0.0	--		0	--
Totals and Averages	1,924	318,180	2,928,728	3	22	1	45	6,632	9.4	7.5	6.0	141	2,264	2,214
REGION 3														
Boulder Regional Office	135	21,600	212,640							0.0	0.0		0	0
Boulder City Development	14	2,240	18,344							0.0	--		0	--
Boulder Canyon Project	150	25,404	240,064		2			53		8.3	12.1		221	360
Colorado River FW&LS	86	13,690	115,131		2			8		17.6	18.0		69	83
Parker-Davis Project	313	51,394	435,006					11		2.3	2.6		25	117
Phoenix Development	130	20,800	155,134				2	233	48.1	19.3	11.7	96	1,502	12
Southern California Development	28	4,460	25,593							0.0	0.0		0	0
Yuma Projects	215	33,118	254,268				50	50	30.2	3.9	9.7	1,510	197	24
Totals and Averages	1,071	172,706	1,456,180	2	9		52	355	11.6	6.2	9.4	301	244	119
REGION 4														
Salt Lake Regional Office	315	50,838	497,261		1			30		2.0	0.0		60	0
Emery County Project	44	6,998	60,151							0.0	0.0		0	0
Central Utah Projects	158	24,000	206,000		1			20		4.9	12.6		97	980
Curecanti Unit	102	15,922	141,150							0.0	9.0		0	52,982
Flaming Gorge Unit	125	22,478	198,812							0.0	4.4		0	1,192
Glen Canyon Unit	318	54,600	545,026		1			14		1.8	5.8		26	1,509
Navajo Unit			8,603							0.0	10.3		0	103
Power Operations Office	26	4,384	12,254							0.0	--		0	--
Transmission System Office	71	11,360	118,406		1			12		8.4	0.0		101	0
Durango Projects	77	13,363	127,860		1			32		7.8	14.0		250	84
Grand Junction Projects	90	13,696	138,020	1	3		9	15	73.0	21.7	9.9	657	109	392
Logan Development	14	2,336	21,486							0.0	0.0		0	0
Seedskadee Project	71	17,890	116,556							0.0	7.7		0	348
Upper Green River Project	17	2,640	27,600							0.0	0.0		0	0
Weber Basin Project	228	36,480	331,386							0.0	0.0		0	0
Totals and Averages	1,656	276,985	2,550,571	1	8		9	123	3.6	3.1	5.2	32	48	2,734
REGION 5														
Amarillo Regional Office	110	17,742	179,442							0.0	0.0		0	0
Albuquerque Development	38	5,966	54,273							0.0	0.0		0	0
Austin Development	63	9,039	101,375							0.0	0.0		0	0
Canadian River Project	158	25,741	231,947							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	37	5,920	73,920							0.0	0.0		0	0
Middle Rio Grande Project	222	37,448	355,096		5			34		14.1	10.1		96	91
Navajo Indian Irrigation Project	64	10,712	70,640		1			2		14.1	--		28	--
Norman Project	83	16,364	122,416							0.0	0.0		0	0
Oklahoma City Development	29	3,922	40,743							0.0	0.0		0	0
Rio Grande Project	271	49,458	429,188		1			7		2.3	10.9		16	59
San Angelo Project	9	1,392	40,594							0.0	14.0		0	692
San Juan-Chama Project	65	10,225	60,664		1			5		16.5	--		82	--
Wichita Project	60	10,237	103,002							0.0	14.3		0	14
Totals and Averages	1,209	204,166	1,863,300		8			48		4.2	6.7		26	91
REGION 6														
Billings Regional Office	245	39,109	351,576							0.0	3.0		0	3
Canyon Ferry Project	21	3,096	27,574		1			18		36.3	0.0		653	0
East Bench Project	69	10,580	102,136							0.0	0.0		0	0
Fort Peck Project	36	4,769	50,432		1			11		19.8	20.4		218	348
Missouri-Oahe Projects	265	42,400	391,596		4	1		6,052		10.2	10.1		15,455	659
Missouri-Souris Projects	123	18,019	141,307		2			12		11.0	4.7		66	28
Power System Operations	40	6,400	63,920							0.0	0.0		0	0
Riverton Project	31	4,069	44,102		2			162		45.3	0.0		3,668	0
Upper Missouri Projects	75	11,419	121,980							0.0	20.0		0	186
Yellowtail Project	138	21,367	184,324							0.0	12.2		0	147
Totals and Averages	1,043	161,724	1,519,007		10	1		6,255		6.6	7.8		4,118	219
(Continued next page)														
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH September 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	175	28,000	264,032							0.0	0.0		0	0
Denver Development	32	5,120	45,704							0.0	0.0		0	0
Fryingpan-Arkansas Project	110	21,233	116,079		2			404		17.2	--		3,480	--
Kansas River Projects	307	50,720	503,496							0.0	1.9		0	15
Niobrara-Lower Platte Projects	261	46,980	430,400		1			6		2.3	0.0		14	0
North Platte River Projects	331	53,120	473,041					10		0.0	0.0		21	0
South Platte River Projects	170	27,200	251,944		2			12		7.9	7.6		48	87
Totals and Averages	1,386	232,373	2,084,696		5			432		2.4	1.5		207	15
CONSOLIDATED TOTALS	11,338	1,861,130	17,311,324	9	80	3	6,111	19,951	4.8	4.6	5.3	3,283	1,152	896
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,283	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH September 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	19	2,044	18,285							0.0	0.0		0	0
Columbia Basin Project	128	14,430	153,617							0.0	5.8		0	18
Coeur d'Alene Project	8	384	33,528							0.0	0.0		0	0
Hungry Horse Project	28	1,958	5,185							0.0	0.0		0	0
Minidoka Project			1,507							0.0	0.0		0	0
Rogue Project			8,437							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	16	2,129	59,205							0.0	--		0	--
Vale Project	14	2,520	58,766							0.0	43.2		0	534
Yakima Project	11	957	14,239							0.0	0.0		0	0
Totals and Averages	224	24,422	352,784							0.0	11.0		0	110
REGION 2														
Distribution System Projects			18,390		2			15		108.8	43.9		816	1,088
El Dorado Distribution			11,399							0.0	59.0		0	568
Fresno Field Division			8,711		2	1		6,021		229.6	--		691,195	--
Klamath Project			1,590							0.0	0.0		0	0
Red Bluff Office	210	36,480	241,560		1			21		4.1	26.7		87	995
San Luis Unit	1,094	224,699	887,337	4	14	1	6,084	6,323	17.8	15.8	0.0	27,076	7,126	0
Tracy Field Division			7,975							0.0	0.0		0	0
Trinity River Division	161	16,010	349,527		12			6,142		34.3	41.3		17,572	1,055
Totals and Averages	1,465	277,189	1,526,489	4	31	2	6,084	18,522	14.4	20.3	39.9	21,949	12,134	941
REGION 3														
Colorado River FW&LS	18	1,661	21,270							0.0	0.0		0	0
Parker-Davis Project	104	10,661	82,150		2			95		24.3	112.1		1,156	224
Phoenix Development	10	3,100	5,700							0.0	0.0		0	0
Yuma Projects	105	14,295	22,759	1	2		30	630	70.0	87.9	16.2	2,099	27,681	420
Totals and Averages	237	29,717	131,879	1	4		30	725	33.6	30.3	15.1	1,009	5,497	211
REGION 4														
Central Utah Projects	2	60	8,547	1	1		100	100	16,666.7	117.0	53.0	1,666,667	11,700	1,872
Curecanti Unit	435	79,141	560,213		12	1		6,228		21.4	14.6		11,117	175
Flaming Gorge Unit	605	90,525	802,943	2	20	2	26	12,952	22.1	24.9	6.9	287	16,131	4,942
Glen Canyon Unit	1,558	215,837	2,441,678	1	39	2	7	13,388	4.6	16.0	21.7	32	5,483	3,354
Navajo Unit			32,081							0.0	16.3		0	435
Emery County Project	186	28,041	64,239		2			45		31.1	0.0		701	0
Florida Division	260	46,955	263,306		5	1		6,135		19.0	28.7		23,300	647
Grand Junction Projects			11,292							0.0	20.5		0	332
Seedskadee Project	296	54,388	498,710	1	4	2	26	12,116	18.4	8.0	7.7	478	24,295	184
Weber Basin Projects	445	73,964	501,914	2	7		16	55	27.0	13.9	37.1	216	110	20,568
Totals and Averages	3,787	588,911	5,184,923	7	90	8	175	51,019	11.9	17.4	18.0	297	9,840	3,672
REGION 5														
Amarillo Regional Office			8,177							0.0	0.0		0	0
Austin Development			1,223							0.0	--		0	--
Canadian River Project	503	121,384	741,105	4	9		44	91	32.9	12.1	24.6	362	123	393
Lower Rio Grande Rehabilitation	242	26,826	142,325		1			2		7.0	30.4		14	218
Norman Project	150	24,339	174,653							0.0	248.0		0	2,604
Oklahoma City Development			2,471							0.0	--		0	--
Rio Grande Project			7,553							0.0	--		0	--
San Angelo Project			50,889							0.0	28.4		0	21,811
San Juan-Chama Project	20	3,840	6,493							0.0	--		0	--
Wichita Project	137	26,574	256,872		1			17		3.9	0.0		66	0
Totals and Averages	1,052	202,963	1,391,761	4	11		44	110	19.7	7.9	29.2	217	79	12,329
REGION 6														
East Bench Project	318	46,136	297,624		13			296		43.7	39.0		995	668
Missouri-Oahe Projects	227	30,542	144,198		6			98		41.6	24.2		680	18,238
Missouri-Souris Projects	121	17,973	137,927		3			77		21.8	27.5		538	1,464
Riverton Project	3	251	11,092							0.0	0.0		0	0
Upper Missouri Projects			10,867		1			3		92.0	0.0		276	0
Yellowtail Project	808	157,665	881,749		4	4		24,000		4.5	39.0		27,219	668
Totals and Averages	1,477	252,567	1,483,457		27	4		24,474		18.2	20.4		16,498	4,821
REGION 7														
Fryingpan-Arkansas Project	3	378	3,088							0.0	--		0	--
Kansas River Projects	289	60,051	465,492		2			215		4.3	9.4		462	4,818
Niobrara-Lower Platte Projects	502	94,893	633,033	1	8		48	106	10.5	12.6	18.7	506	167	276
North Platte River Projects	117	21,385	31,276	3	3		108	108	140.3	95.9	78.4	5,050	3,423	941
South Platte River Projects	8	326	4,292							0.0	0.0		0	0
Totals and Averages	919	177,033	1,137,181	4	13		156	429	22.6	11.4	15.8	881	377	1,967
CONSOLIDATED TOTALS	9,161	1,552,802	11,208,474	20	176	14	6,489	95,279	12.9	15.7	22.3	4,179	8,501	4,199
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

* FATALITIES INCLUDED IN TOTAL DISABLING

SAR

SAFETY RECORD

"AN AGENCY CAN IMPROVE ITS SAFETY RECORD BY MILITANT SAFETY MANAGEMENT, REFLECTED BY ENFORCEMENT OF SAFETY REGULATIONS, WITH COURAGE TO ENFORCE JUST PENALTIES, AS WELL AS TO RECOGNIZE COMMENDABLE SAFETY EFFORT; AND BY MANAGEMENT THAT REQUIRES THE PARTICIPATION OF EVERY MAN AND WOMAN IN THE ORGANIZATION IN CARRYING OUT AN EFFECTIVE HEALTH AND SAFETY PROGRAM."

Floyd E. Dominy
Commissioner of Reclamation

DEC 1 5 1963

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

October 1963

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Front Cover Photo: Floyd E. Dominy, Commissioner of Reclamation. Bureau of Reclamation photo.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

Remarks by Floyd E. Dominy, Commissioner of Reclamation
United States Department of the Interior
at the
Department's Eighth Annual Safety Programming Conference
Chicago, Illinois
October 31, 1963

As Commissioner of Reclamation, responsible for the development and administration of an orderly program of water resource development in the 19 Western United States, I am frequently called upon to speak on the subject of conservation. On most occasions, my remarks are intimately concerned with the beneficial development and conservation of America's natural resources. Happily, I can definitely affirm that I am not out of character this afternoon in discussing safety. Safety is a form of conservation--a most important one. It is the conservation of our employees, our contractors and their employees, and of the people who use and visit our projects.

I am dedicated to, and have major responsibility for, developing the water resources of more than half our country; it is my duty to do everything in my power to insure the timely development of feasible water use projects--the lifeblood of the West. I consider this work of the utmost importance. And yet, if you were to ask me: "What is more important--water or the care of our employees and the public?" I could only answer: "The safety and well being of the people." The people must come first.

The Department of the Interior, as an employer and as the guardian of vast public recreation areas, has both a real and moral obligation to provide and to maintain safe environments for work and enjoyment.

I am also motivated by other considerations:

I am appalled by the fact that in 1962 accidents contributed to 97,000 deaths and 9,800,000 disabling injuries throughout the Nation. Thirteen thousand of these deaths and 2 million of these injuries occurred at work.

I am dismayed by the astronomic price of 5 billion dollars--estimated as the dollar loss to the Nation--resulting from job-connected injuries. That's more than the total investment in Reclamation during its entire 61-year history. This is a deeply disturbing statistic--because part of that statistic belongs to the Federal Government; and part, in turn, to the Department of the Interior and to the Bureau of Reclamation.

The Government's record and performance in this vital area has been found less than adequate. This is a fact that cannot be talked away. It must be planned and managed away.

In 1955, Senator Hubert H. Humphrey criticized several agencies in Interior having high accident rates. Reclamation, with a frequency rate of 13.9, was one of the indicted agencies. Although we made some subsequent improvement, I am not happy to confess that we continued for a few years to show no better than a mediocre safety performance. As safety administrators, you are aware that a mediocre performance in a work injury prevention program also reflects mediocrity in the motor vehicle accident prevention program, the fire-loss prevention program, the property damage prevention program, the public safety program, and the contractor safety program. A high incidence of accidents is a harbinger of increased operating costs and inefficiency. We are totally involved.

In early 1961, plagued by an unsatisfactory record and prodded by a certain amount of urging from the Administrative Assistant Secretary--who I can assure you is dedicated to improved safety in the Department--we applied ourselves to overhauling our safety effort. This quite naturally brings me to the theme of this conference--"Safety Aids Decision Making."

This theme simply implies that aggressive management participation and personal involvement are essential to the success of any safety effort. Conversely, health and safety should be considered in all management decisions relating to the method of doing business. Incidently, this truth is the keystone of Reclamation's current loss prevention program.

In our reappraisal, we were confronted with the task of applying this basic principle of effective safety management to our varied and widespread operations. Today, Reclamation has approximately 11,000 employees located in over 100 operating offices throughout the 19 Western States, including Alaska and Hawaii.

Our major operations involve: investigation of potential water supply and hydroelectric projects; the design of these projects; supervision and inspection of 300 million dollars of new construction yearly; construction and maintenance of more than 12,000 miles of high-voltage transmission lines; operation of powerplants with a capacity of 5.3 million kilowatts; responsibility for the operation and maintenance of irrigation facilities capable of supplying water to 8.6 million acres of arid and semiarid land; and construction and operation of water salvage and recovery facilities.

In addition, our construction program currently affords employment for some 9,000 contractor employees engaged in the comparatively

hazardous work of constructing these necessary reclamation facilities.

We have 191 public recreation areas on or adjacent to our storage reservoirs and lakes. These recreation areas were made available for public enjoyment under Reclamation's outdoor recreation program. Last year, the American public spent over 27 million visitor-days pursuing healthful and enjoyable recreation on Reclamation reservoirs and lakes. This is equivalent to a day of recreation for one out of every seven Americans. Furthermore, the thousands of miles of canals and laterals tax the ingenuity of Reclamation and Water District supervisors to provide for the safety of the public.

Our immediate objective was to develop a management concept which would intimately involve each supervisor in an active concern with the health and safety of our employees, contractor employees, and the public. We found that such involvement was obtainable through a safety program which embraced supervisory responsibility, safety committees, and safety meetings.

As Commissioner, I endorsed a policy requiring--I repeat, requiring--active participation in Reclamation's safety effort by all supervisory personnel. It was emphasized that each supervisor was personally responsible for safety--and that lip service to safety would not suffice. Our seven Regional Directors and the Manager of the Alaska Distract were assigned responsibility for the effective administration of the safety program on all operations within their respective jurisdictions. In turn, the head of each operating office was made responsible to his Regional Director for effectively carrying out the safety program and providing for full compliance with prescribed health and safety standards.

Safety committees were formally established in each regional office, the Alaska District, and in every operating office regardless of size or location. These committees, composed of the office head, the safety engineer, and the chief supervisor of each division or work activity, meet once a month to review the project safety record, to review recommendations, to consider health and safety matters pertinent to their respective management functions, and to initiate improved procedures and policies.

All operating offices hold regularly scheduled safety meetings. Every supervisor is required to attend at least one such meeting each month. Furthermore, every supervisor of field employees, such as surveyors, construction inspectors, and operation and maintenance personnel, is required to conduct a 5-minute on-the-job safety meeting for his crew each week. As an aside, all of

our field supervisors are required to obtain a Bureau of Mines First-Aid Certificate, indicating successful completion of 10 hours of instruction in first aid.

It is not our policy to employ a large number of safety inspectors. This would be contrary to the basic concept of management responsibility which we are promoting.

As simple as this policy appears, casual reflection reveals that it provides the essential elements--complete management participation and involvement at all levels--without relieving or usurping supervisors of any of their regular responsibilities. In this way we are making safety an integral and inseparable part of management. It is our firm conviction that the most efficient way of performing an operation is the safe way; the most economical way to carry out an assignment is the safe way; the best way to obtain highest quality of product is the safe way; the only way to administer a construction contract is the safe way; and the responsible way to carry out a public recreational program is the safe way. I believe that this is what the committee had in mind when it selected the theme--"Safety Aids Decision Making."

As a direct result of this realistic approach to the problem, Reclamation completed 1962 with the lowest Government and contractor accident frequency rates in its 61-year history. Vehicle accidents were reduced by 16 percent. Continued improvement is being made--our accident frequency rate for 1963 stands at an all-time low of 4.6. Joint participation with the American Red Cross in "Operation Westwide," a program devised to effectively waterproof the public, resulted in fewer drownings in Reclamation reservoirs, lakes, and canals--and the latter achievement was accomplished in the face of a tremendous increase in public use. Other phases of our safety program are showing corresponding improvement.

I am not pointing to these accomplishments to vindicate our judgment, but simply to indicate to you that the concept of management participation and involvement is a realistic and effective approach to accident prevention. In short, it works.

While the improvement in Reclamation's safety record is gratifying, we cannot afford to become complacent. In fact, renewed and aggressive dedication to continued improvement in the Government's safety effort is demanded today more than at any other time. In today's world there is no standing still. You either go ahead or slip back. Last Saturday's touchdown will not win today's game.

Today, Interior and other Federal agencies are confronted by some difficult and vexing problems born of hesitancy and complacency.

In September 1960, Congress enacted legislation providing that all medical and compensation costs be borne directly by each Federal agency. This means that accident costs are now an integral part of our cost of doing business. Moreover, a visible price tag is placed on management errors and omissions which result in accidental injury or death. The three-quarter of a million dollar charge-back to Interior which must be included in appropriations for fiscal year 1965 will no doubt receive critical appraisal by Congressional appropriation committees.

I have pointed out several things which I hope will provide incentive to management and safety personnel in their efforts to improve the Government's safety performance. In concluding my remarks, I would like to emphasize a few points:

Improvement of the Federal safety record will not be accomplished by employing large numbers of safety engineers or safety inspectors in positions afforded little, if any, stature within the organization.

It will not be accomplished by isolating safety management from other management functions.

It will not be accomplished by devising more involved, complicated, and time-consuming accident reporting procedures.

And it will not be accomplished by ignoring the achievements of private industry, or by failure or reluctance to join forces with industry and the public in our common objective--improvement of the Nation's accident record, both at work and at play.

An agency of the Federal Government can improve its safety record and its public image by initiating and carrying out an aggressive safety program, patterned to its own needs, and by demanding management participation and involvement at all levels of operation.

An agency can improve its record by militant safety management, reflected by enforcement of safety regulations, with courage to enforce just penalties, as well as to recognize commendable safety effort; and by management that requires the participation of every man and woman in the organization in carrying out an effective health and safety program.

An agency can improve its record by actively supporting and participating in non-Federal organizations dedicated to improvement of health and safety. Every agency should encourage affiliation with local safety councils, community water safety groups, State industrial safety committees, and with the many fine technical committees of the National Safety Council. Safety does not bear an arm patch, segregating Federal and non-Federal endeavor in this intensely humanitarian effort.

The record can be improved by adopting a uniform system of compiling injury and accident statistics which meets the criteria established by recognized authority--either the National Safety Council or the American Standards Association. If we are to be compared with private industry, and I believe we should, let us compete on an equal basis.

And finally, an agency can improve its record by creating and encouraging an atmosphere conducive to the utilization of individual initiative and imagination. The entire concept of conservation is changing, and the problems of health and safety must also change to cope with these advances. New techniques and improved methods are demanded. For, as the Book of Proverbs cautions: "Where there is no vision, the people perish."

I offer the above as objectives which should be pinpointed for accomplishment--Now!

It is due largely to your dedication and under your guidance that accident costs are reduced, full utilization of manpower is assured, and the American public is able to enjoy our popular recreation areas with safety. Your past accomplishments have been a source of benefit, of pride and pleasure to the Nation, your Bureau, and to the Department.

However, now is the time for greater dedication, enlarged efforts, and further achievement. Safety is an unending responsibility of management. It is not something to be avoided and buried in long memorandums, or left to languish in committees. The more simply and directly you establish those lines of management responsibility and involvement, the more successful your program will be.

* * * * *

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
January 1, - October 31, 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 7	2.2	188	4.1	3.1
Region 4	3.5	54	1.9	2.9
Region 5	5.7	48	2.7	4.5
Region 1	5.8	2,369	137.4	2.2
Region 6	6.5	3,755	244.1	2.7
Region 3	6.7	226	15.1	3.9
Region 2	7.6	2,040	155.0	5.2
Alaska District	16.9	17	2.9	0.0
Totals to date	4.8	1,045	50.2	3.5
Totals last year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	2.6	23	0
Region 5	8.6	290	0
Region 7	10.9	346	0
Region 4	17.7	8,646	8
Region 6	18.0	14,255	4
Region 2	20.1	10,384	2
Region 3	26.5	4,008	0
Totals to date	15.9	7,391	14
Totals last year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date: October 31, 1963

A. ACCIDENT CLASSIFICATION:

Type	Description	No.	Days lost
2	Aircraft	1	6,000
5	Vehicles	9	12,329
7	Explosions	1	6
9	Electricity	3	27
12	Handling Material	24	866
13	Falling Objects	4	26
14	Falls of Persons	15	311
15	Jumping to Places	2	5
16	Striking Against	4	16
17	Flying Particles	3	37
18	Handtools	6	52
19	Machinery	3	138
20	Not otherwise classified	18	391
	Totals	93	20,204

B. OPERATIONAL SUMMARY:

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	4,641,205	4	19	0.9	4
Construction	4,902,216	24	6,320	4.9	1,289
Design	2,053,763	2	11	1.0	5
Investigation	2,422,614	24	995	9.9	411
O&M-Irrigation	2,375,959	21	619	8.8	260
O&M-Power	2,943,299	18	12,240	6.1	4,159
Totals	19,339,056	93	20,204	4.8	1,045

C. SERIOUS ACCIDENTS: (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000
9-12-63	Guard	Vehicle accident (drowning)	6,000

WATER SAFETY

Parker-Davis Project: The Mohave County Water Safety Committee set up and maintained a booth at the Mohave County Fair, September 6-8. Literature prepared by the National Red Cross and the committee was distributed. The committee had developed a water safety brochure and some 2,000 copies were handed out at the Fair. Also, a safety film was shown five times each day during the 3-day Fair.

Grand Junction Projects: Regional Safety Officer R. W. Cary visited this office on October 16. Main purpose of the visit was to meet with Mr. Edward Craren, Safety Services Representative, American Red Cross, for promoting "Operation Westwide" in this area. Present plans restrict the program to waterways, lakes, and reservoirs in Mesa County, Colorado, with future expansion into Delta County. Tentative meetings between Mr. Paul Swoboda, Water Safety Director, American Red Cross, Grand Junction, Colorado, and Mr. Cary were planned.

Vale Project: Two meetings on "Operation Westwide" were held with civic groups in Ontario, Oregon, during the month with Regional Safety Engineer Harold Wersen attending one meeting.

Weber Basin Project: The regular meeting of the Ogden Area Water Safety Council was held on October 17 with 19 members present to discuss water safety items.

Niobrara-Lower Platte Projects: Through the efforts of the Brown County Water Safety Council, water safety films entitled "Teaching Johnny to Swim" and "Boats, Motors, and People," were shown to two rural school district's personnel. Tentative plans call for the formation of a Water Safety Council at Valentine, Nebraska, early in 1964.

Hungry Horse Project: Messrs. E. K. Miller, D. J. Voelker, and H. D. Simpson attended the Board Meeting of the Flathead Lifesaving and Rescue Association. Arrangements were made to distribute the wallet-size distress signal cards which were printed by the Bureau.

Minidoka Project: There were two water safety council meetings in the Tri-County Area surrounding American Falls Reservoir. At the October 2 meeting, a chairman, secretary-treasurer, and four vice chairmen were elected. The group decided to have representation from each town concerned, so a vice chairman was elected from Pocatello, American Falls, Aberdeen and Blackfoot. On October 16, the constitution and bylaws were discussed and drafted. The constitution will probably be adopted at the next meeting on November 13. The Council implemented two water-safety projects this month. Both were educational programs on water safety while duck and goose hunting and on ice skating.

ACCIDENT REVIEW

BURNING BRUSH

Employer: Contractor
Activity: Attempting to burn brush pile.
Accident Situation and Occurrence: Employee attempted to ignite brush pile by using his cigarette lighter. Foreman had sprinkled gasoline on brush. Employee received flash burns to right arm and face with 30 days' lost time estimated.
Cause Determination: Using gasoline to start fire which is contrary to safe practice.

MOTOR VEHICLE

Employer: Government
Activity: Routine security patrol by guard in motor vehicle.
Accident Situation and Occurrence: A patrol car went off the highway, down the slope and came to rest at the edge of the reservoir at about 4:00 a. m. The guard, who was alone at the time, had gotten out of the car and his body was found in the water a few feet in front of the vehicle. Investigation indicated that the car had made a slow speed turn to the left on the highway. It then passed between two guard posts and down the embankment to the water's edge.
Cause Determination: The causes of the accident and subsequent drowning are unknown. It is believed that the guard was attempting to turn around in the roadway and allowed the car to roll forward over the bank. After getting out of the patrol car he then slipped on the wet rocks and fell into the reservoir.

FALLING ROCK

Employer: Contractor
Activity: Setting tunnel ribs near tunnel face.
Accident Situation and Occurrence: While employee was setting tunnel ribs, a rock fell from the tunnel face and struck him on side of head. Contusions received resulted in 5 days' lost time.
Cause Determination: Employee was wearing a hard hat and face of tunnel had been scaled. This accident might have been prevented by using a breast board jumbo.

ROCK FALL

Employer: Contractor
Activity: Driving tunnel.
Accident Situation and Occurrence: While working in tunnel, a miner was struck by a large rock that fell from side of the tunnel. Employee's leg was fractured with an estimated 62 days of lost time.
Cause Determination: Intensive checking and barring down of loose rocks in tunnel will help prevent this type of accident.

INFECTION

Employer: Contractor
Activity: Repairing motor in machine shop.
Accident Situation and Occurrence: A mechanic was removing a pulley from a motor and a blister developed on palm of right hand. Later infection developed with 5 days of lost time incurred.
Cause Determination: Failure to secure proper first-aid treatment resulted in infected hand.

SAFETY RECORD SIGN

Red Bluff Construction Office--Central Valley Project, California. Vinnell Corporation, contractor on construction of the Bureau's Red Bluff Diversion Dam, erected the above sign to display the project safety record. As of October 28, 1963, the contractor has extended his excellent safety record to 665 days without a lost time accident.

FROM THE FIELD

Upper Green River Project: The employees of the Farson Field Office deserve recognition for their safety record achieved during the 1963 irrigation season. Employees drove 26,400 miles, most of which were over narrow and winding canal bank roads, without an accident. Many hours were spent in operating heavy O&M equipment along these roads.

Yuma Projects: A safety cable and sleeve assembly was installed on the vertical steel ladder at Imperial Dam. The cable is moved as cleaning operation progresses from one sluice gate to another. Landing platforms at the bottom of the vertical ladders were fabricated and installed. A safety net is used downstream from the working area and is also moved from one gate to another.

Parker-Davis Project: A supervisory safety meeting was held at Project Headquarters on October 7. It was at this meeting that the administrative and other supervisory personnel had an opportunity to meet with the Regional Director and hear him express his ideas, opinions, and statements of policy pertaining to safety programs and responsibility within the limits of Region 3. The Regional Director also introduced Marc Burbridge, the new Safety Officer for Region 3. Mr. Burbridge briefly spoke of his experience, background and his plans for improving the safety record in the region.

Norman Project: The Safety Officer reported to the committee the results of a survey he conducted as to the adequacy of barricades and signs around the construction areas. This survey was conducted because of the Construction Engineer's concern for the safety of the few people who manage to find their way into the construction area. A map was prepared to show the places of easy access into construction areas. Each place is numbered and a request was submitted to the contractor stating what corrective action is needed.

Almena Unit: A suggestion was made that all hard hats issued to visitors be painted red so that everyone would know that they were visitors; enabling all personnel to assist and warn them of existing hazards.

The Dalles Project: Since the contractor has reduced its personnel to approximately 12 employees, the superintendent has a tendency to be rather lax in holding his weekly toolbox meetings. He was instructed to hold these meetings regularly regardless of the number of men that are on their payroll.

Region 3: Safety promotion in Region 3 gained impetus during the month of October through the determined stand taken by the Regional Director in both the September Staff Meeting and the Regional Safety Committee Meeting.

Implementing his stated policies for an accentuated safety program with direct action, the Regional Director personally appeared and addressed meetings of Supervisors and Foremen at each of the following projects and field offices: Boulder Canyon, Parker-Davis, Yuma Projects, and the Phoenix Development Office. Regional Safety Engineer Marc Burbridge was introduced and talked to the employees regarding the most effectual means and methods of achieving improvement in the Regional Safety Program.

Canadian River Project--Contractor Forces: Many people who live north of the Canadian River visit the job at points other than the designated vista point. In order to deter these visitors, entry roads, trails, etc., have been ditched and signs warning of "Blasting Operations," "Open Pits," "Heavy Equipment Working," etc., have been placed throughout the northern boundary on the Government right-of-way. The good housekeeping program initiated in September 1963 has been expanded to include shops and trash areas not immediately adjacent to the work. The thought being that "A clean job is a safe job." The contractor designated a specific "clean-up" day in furtherance of this program. There were 67 toolbox meetings, 4 supervisory meetings, and 1 joint Policy Safety Committee Meeting held during October.

San Luis Unit: Construction Engineer J. A. Buchholz opened the Supervisory Safety Committee Meeting on October 17, by stating that future meetings would be held on the third Thursday morning of each month at 8:00 a.m. He admonished all to appear promptly at the scheduled time. He also commented on the following items: 1. Motor vehicle accidents on this project. He stated that a "get tough policy" has been used effectively in other regions, and that it was his understanding that it will be put into practice in Region 2. The employee may be required to pay for any damage caused if he is found liable in a motor vehicle accident. 2. Seat belts are mandatory. In Region 7, the policy has been "Fasten seat belts, prior to starting the motor" of the vehicle. A similar requirement should be feasible on this project. 3. Attitude is important toward safety. He stated that a positive attitude toward safety is a must, if a safety program is to make any progress. To foster this positive attitude, he asked that supervisors and their men put themselves in the place of the men hurt, "Would they like this to happen to them."

Central Utah Projects: Field parties in the Duchesne area met with Gary Rowley, a Government trapper, who explained how to recognize a cyanide gun and how it operates. A gun was obtained by the field section to familiarize new employees with the device.

North Platte River Projects: The film "Working the V on 345 kv Line," showing the changing of V string insulators, was shown to 75 employees from the Power O&M Divisions. Also the film "Why Daddy," on fire prevention, was shown to 162 employees in conjunction with monthly safety meetings.

CONSTRUCTION SAFETY

The following remarks were made by Project Construction Engineer C. O. Crane at joint safety meetings held October 23 and 24 with Bureau representatives and contractors on the Canadian River Project, Texas.

Some accidents are alleged to be due to the "carelessness" of workers. Others may be the result of inadequate precautions, lack of training, failure to use protective devices and equipment, sloppiness, poor housekeeping, and willingness to take calculated risks. Some of the hazards can be eliminated, others can be controlled, but all are a perpetual challenge that by nature becomes an endless task during the life of the construction contract.

Unsafe practices and safety violations are, if not controlled, everyday occurrences, costly in terms of human lives and human welfare, as well as in terms of money.

The more familiar I become with accident prevention on construction work, the more I realize that safety on the job is top management responsibility that cannot be delegated, and that positive accident prevention measures must be adopted and fully supported by top officials and must be implemented and enforced all the way down the line to and including laborers and mechanics.

We have talked on this job about posters, flagging of danger zones, adequate lighting, good housekeeping, training programs, and toolbox safety meetings, but our problem remains--to keep each worker safety conscious, and this can be emphasized by spelling out the specific policies established in these top-policy-making meetings, reducing it to writing, explaining fully the meaning and intent of the policy--such that the individual employee will recognize that the safety program is for his benefit, and requires his cooperation.

Many unnecessary hazards are designed into projects by too many concurrent operations in a limited area and too little allowance for safe working conditions. Considerable safety can be effected through careful planning and scheduling of work, and with adequate protective measures incorporated into the plan of accomplishment. Our job as members of the Joint Board on Safety--Sanford Dam is to THINK; to make long-range plans and schedules of the work to minimize hazards; to establish overall safety policies; and to translate such policies from a talking stage into effective action at the jobsite.

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Curecanti Unit--Morrow Point Dam, Colorado. View showing Infirmary located at field offices of the contractor, Johnson and Morrison-Knudsen. Registered Nurse Joanne Padden standing by with project ambulance. Reclamation photo P622B-427-2362.

Curecanti Unit--Morrow Point Dam, Colorado. Joanne Padden, R.N., inspects the resuscitator and other first-aid equipment carried in the ambulance. The contractor, Johnson and Morrison-Knudsen, has this equipment stationed at their field Infirmary. Reclamation photo P622B-427-2363.

SAFETY PRACTICES AND GROUNDING TECHNIQUES IN DOUBLE-CIRCUIT OR PARALLEL-CIRCUIT STRINGING OPERATIONS

Paper presented by Larry Hayes, Jr., Regional Safety Engineer, Billings, Montana, at the Regional Safety Engineers' Conference and Safety Workshop, Denver, Colorado, February 18-21, 1963.

The construction of a transmission system is not unlike other types of construction in that provision is often times made for future demand.

Many miles of our 230-kv transmission line system were built double-circuit with only one circuit being strung in the initial construction. The second circuit was to be added when the power load warranted the added capacity.

The first second-circuit stringing contract was let early in 1961 with another contract following shortly thereafter. There was a total of 410 line miles in the two contracts.

Recognizing some of the problems which would be encountered in stringing the second circuit while the first circuit was energized at 230,000 volts, certain requirements pertaining to grounding were stipulated in the contract specifications.

For the most part, these requirements proved to be adequate and have since been incorporated in other like construction contracts. However, as a transmission system expands, we find we run into parallel situations getting in and out of substations. Likewise, as a system expands, the occasion arises where a second line must be constructed parallel to an existing energized line.

For these reasons, plans are underway to incorporate special provisions in transmission line construction specifications which will be appropriate, and applicable, to parallel stringing. The draft of these provisions will contain data pertinent to the particular job plus the following:

No work shall be performed close to energized facilities except under the supervision of a qualified foreman and in the presence of a Government inspector.

The Government inspector will be authorized to order the contractor's operation discontinued if, in his opinion, work is being done in such a manner as to endanger life, property, or electrical service. Failure

of the inspector to order discontinuance of the contractor's operations shall not relieve the contractor of his responsibility for the safety of his employees and the public.

The contractor shall submit to the contracting officer, for approval, the following information with respect to work to be performed close to energized facilities:

(1) Area where work will be done,
(2) Outline of procedure for accomplishing the work,
(3) Time the work is to commence,
(4) Duration of the work,
(5) Number of men and their classification,
(6) Type and rating of equipment to be used.

Special Precautions.--Unless adequate grounding measures are used, excessive and hazardous voltages could be induced on pulling cable, conductors, or overhead ground wires which parallel energized circuits. The following special minimum grounding procedures shall be followed during all stringing operations:

1. General.--

A. Full compliance with Bureau of Reclamation, "Safety Requirements for Construction by Contract, Third Edition, September 1962." The special precautions under Section XX, Paragraphs 20-48, 20-49, and 20-50, shall be followed during stringing of conductors and overhead ground wires.

2. Grounding Requirements.--

A. Moving-type ground, or an acceptable alternate grounding means, approved by the contracting officer, shall be used to positively and constantly ground each pulling cable, conductor, or overhead ground wire at all times during stringing operations. As a minimum, such devices shall be located as follows:

(1) One within 20 feet of reel setup,
(2) One within 20 feet of pulling setup,
(3) One at each tower between the reel and pulling setup. (Grounding requirements at towers are not applicable for the overhead ground wires if the stringing blocks are unlined or, if lined, the lining is certified conductive.)

B. One moving-type ground or an acceptable alternate grounding means shall be located at each side and within 20 feet of working area where conductor and overhead ground wire splices are being made. The two ends shall also be effectively bonded.

C. Two or more clamp-type fixed grounds shall be connected to each pulling or reeling equipment setup.

D. At 2-mile intervals all conductors shall be grounded with a hot stick clamp-type ground and such grounds shall be left in place until construction is completed. These fixed grounds shall be removed as the last phase of cleanup.

E. All conductors (and overhead ground wires) shall be positively grounded at any isolated tower where it may be necessary to complete work on the transmission line. All work on dead-end towers requires grounding on both sides of the tower. Grounding provisions may be removed as soon as work is completed, provided the line is not left open circuited at the isolated tower at which work is being completed. (This includes temporary grounds for all clipping operations.) Usually, these grounds are attached to the ladder and are always readily available. They must be attached before the movable ground is removed.

3. Restrictions During Tower Erection and During Pulling and Stringing Operations:--

A. No work shall be permitted on tower erection or on the conductors or overhead ground wires until a hot line order has been placed on the adjacent energized line and the automatic reclosures have been made inoperative. The hot line order shall be issued to an approved representative of the contracting officer and such person shall remain at the site of work while the hot line order is in effect and shall be responsible to ascertain that all personnel are in the clear and properly notified before the hot line order is released.

B. All pulling and stringing operations shall cease when wind velocities are such as to cause conductors to deflect more than 5 feet from the normal no-wind positions. (Applicable only on second-circuit stringing.)

Materials.--

1. Moving-type grounding devices.--The grounding devices shall meet the following minimum specifications:

A. Three grooved contact rollers with permanently lubricated-type bearings and spaced so the center roller will be located on opposite side of cable from the two outside rollers.

B. One or more of the rollers shall be spring loaded to insure adequate contact pressure between rollers and cable during pulling operations to maintain a minimum contact resistance with the cable.

C. Means of positively grounding two or more of the contact rollers to the yoke and ground connection rod or terminal.

D. Spacer rod to keep device in position.

2. Ground Connections.--Each fixed grounding device shall be grounded through a flexible lead and a driven-ground rod, or to an adjacent steel tower.

3. Ground Leads.--Ground leads shall be No. 4 AWG, copper equivalent or larger.

4. Ground Rods.--Ground rods shall be 5/8 inch by 10 feet copper-weld type, or equivalent. Ground rods shall be driven into the ground a minimum of 8 feet.

Ownership of Materials Used for Safety Precautions.--The grounding devices, ground leads, ground clamps, ground rods, tie-down ropes, and any other materials used to provide the special safety precautions shall be furnished, installed, and removed by the contractor and shall remain the property of the contractor during and after the contract period.

Cost.--Cost of furnishing, installing, and removing all materials required for special safety precautions shall be included in the applicable unit price per mile of line bid in the schedule for furnishing and stringing conductors, and overhead ground wires.

I believe it would be well to include these mandatory requirements in the handbook, "Safety Requirements for Construction by Contract," as well as in the contract specifications.

There are also a few additional points I would like to make in regard to second-circuit or parallel stringing.

Second-circuit stringing, or stringing a line which runs parallel to an energized line, has all the safety problems common to any stringing job plus the added hazard of possible contact with the energized line and induced voltages in the line being strung.

The amount of induction under normal operating conditions is dependent upon the voltage of the energized line, the distance from the line and the ungrounded length of the parallel line. The amount of induction can be pretty accurately estimated for known given conditions and grounding can be installed which permits safe conditions for workmen as long as there is no system disturbance on the energized line.

However, it is never known when a ground fault may develop in the energized line. Should this occur, the current in the energized line will be increased an undetermined amount, and with the increased current in the energized line, will follow increased induction. The voltage which may develop in the line under construction may be increased manyfold.

Although this ground fault condition on the energized line may not develop during the life of construction, all grounding requirements must be based upon ground fault conditions. Because of this fact, proper grounding effectively maintains the line being strung at near zero potential; consequently, linemen and others coming in contact with the conductor or overhead ground wire experience no shock and, therefore, feel the grounding is unnecessary.

This false sense of security becomes the big problem in securing compliance with the grounding requirements. The further the job progresses, the greater the problem. Inspection on this type job must afford complete coverage on a continuing basis with no deviation from the requirements.

Actually, inspection coverage must be good enough to afford check out of all grounding. Inspection must also have a continuing program of checking the grounding equipment to insure it has not become damaged to a point where electrical capacity is lost.

Aside from the grounding requirements and the hot line hold order required on the energized line, there are a number of other precautions which must be taken.

All hand lines must be dry and held or tied off at all times. Hand lines shall not be thrown from a tower if the length of the hand line is such that contact can be made with the energized circuit.

On second-circuit stringing all personnel, including groundmen, shall continually be alert to the side of the tower that is hot. Construction linemen in the tower shall not go on the hot side of a tower for any purpose.

No materials shall be stored or handled under the energized line.

Extreme care shall be exercised in making crossings with boom-type equipment under the energized line. Such crossings shall be made only when absolutely necessary. A flagman shall direct the operator to insure a safe clearance is maintained.

The use of trailers equipped with reel jacks permits all loading and unloading of reels remote from the job. This does away with the need for a crane in the field, except for the setting and removal of lift structures. The length of booms on these rigs should be held to a minimum.

All rigging in connection with stringing and sagging operations shall have an adequate factor of safety, and so maintained, to insure a line under tension will not be lost. This is particularly critical in second-circuit stringing because of the possibility of contact with the energized line.

All crossings, lines, roads, highways, railroads, etc., shall be attended at all times line is being pulled. Such attendants must be provided with communications in order that they can stop the pulling operation should trouble develop.

Emphasis must continually be placed upon the fact that no work will be performed except when a hot line hold order is in effect.

When necessary for the contractor to perform work at an isolated location, as making up dead ends, installing vibration dampers, etc., such work shall be performed only in the presence of an inspector. Likewise, this inspector shall make arrangements for and work under a separate hot line hold order. No work shall be performed at the isolated locations except when the hot line hold order is in effect.

Every construction workman and every inspector on a parallel stringing job must be fully aware of all safety precautions necessary, including grounding requirements and mandatory requirements pertaining to hot line hold orders.

Particular care must be exercised in making up dead ends to insure the conductor is maintained grounded on both sides of the structure. When jumpers are left off dead-end structures, grounds must be left in place on the conductor on both sides of the tower. It is common practice to string through a dead-end structure and make the sag, then come back and make up the dead end. The stringing block in this case would be attached directly to the tower. When

tension is taken on the conductor on both sides of the tower and the conductor is cut, the stringing block ground is lost and the line becomes sectionalized. Hence, the need for the installation of grounds on both sides of the tower before this block is removed from the ground circuit.

Temporary grounds must also be used by all clipping crews. Preferably, these grounds should be attached to the hook ladders used by the clipping crews. These grounds shall also be attached before the traveling ground is removed from the ground circuit.

In stringing the second-circuits in South Dakota, one contractor used the back-stringing method and used unlined stringing blocks. This contractor attempted to use the spring-loaded moving grounds and ran into considerable difficulty. The combination of small diameter rollers, coupled with dust conditions and high speed continuous operation, caused heating and sticking of the rollers. Also, some of the metal spacer links broke permitting the movable grounds to ride the conductor to the next tower, if not observed beforehand. Although it did not occur, it was apparent this could result in damaged conductor.

To eliminate the use of the movable grounds, we, along with the contractor, devised a sort of spring-loaded slip ring on the hub of the stringing blocks which afforded a continuity past the hub to the frame of the block. The ground wire was then attached directly to the block frame. This system proved effective, reduced the amount of work and lessened the chance for failure. I looked at some of these blocks after they had been used on better than 200 miles of line and found the slip ring in good condition.

In my opinion, this system is much more desirable than the movable grounds.

The other contractor used the tension-stringing method, employing lined blocks and lined stringing machines. This contractor rigged a spring-loaded roller on either side of his stringing blocks instead of using the movable grounds. This system was equally effective, but the addition made the blocks heavy and cumbersome to handle.

I might mention that lining for stringing machines and stringing blocks is not marked to indicate whether it is conductive.

It has been our experience that a continuity check will not determine whether the material is conductive. Tests by our electrical people indicate that when approximately 50 volts are applied, conductive lining shows very low resistance. Unless lining is certified to be

conductive or has been proved so by test, I would consider it to be a nonconductor.

To my knowledge, no determination has been made as to what horizontal spacing between an energized line and the line being strung will relieve the need for the precautions outlined. However, when these requirements are applicable, I would suggest no relaxation of the rules under any conditions.

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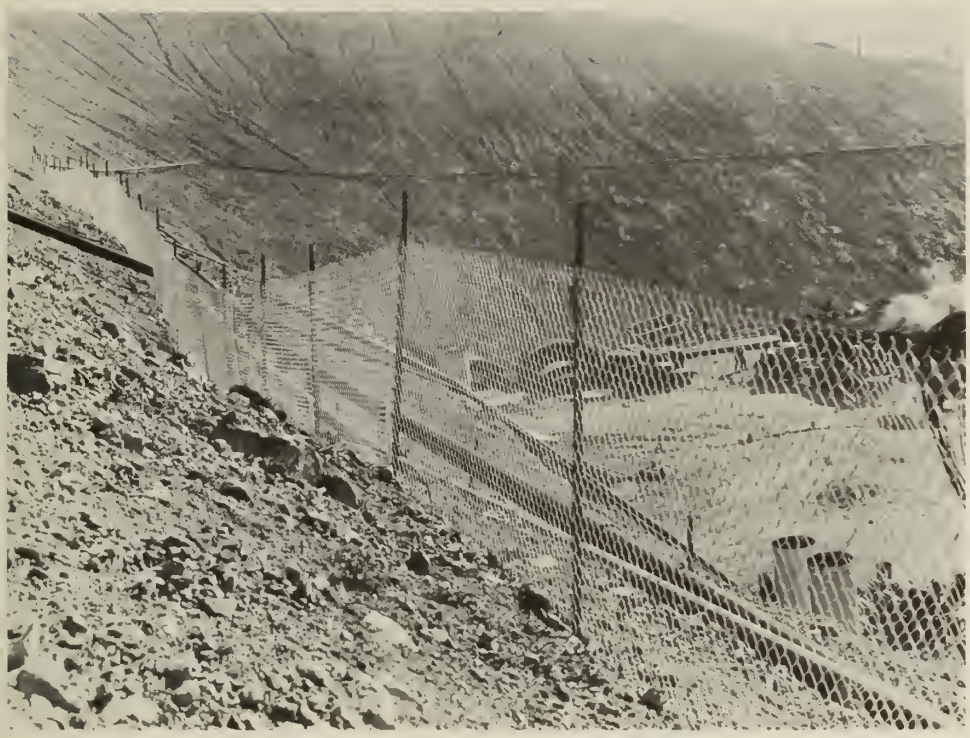
SAFETY FENCE



San Luis Unit--Central Valley Project--California. Specifications No. DC-5855, San Luis Dam. Contractor, Morrison-Knudsen & Associates. View showing fence constructed to stop rolling stones above the upstream portals of the four tunnels. Bureau of Reclamation photo P805-236-2713.

VEHICLE SAFETY

LAWS AND REGULATIONS

New laws providing for state supervised inspection and installation of motor vehicle pollution control devices, and establishing time schedules for such installations, were adopted by the California Legislature at its closing sessions this year. The statutes, amending the Health and Safety Code and the Motor Vehicle Code, became effective September 20. The laws, which apply only to air pollution control districts, provide for the designation and supervision of inspection stations for the installation and inspection of crankcase control devices; require affidavits with new registrants after December 1, 1963; establish a schedule for the first 10 months of 1964 for installation of devices on used motor vehicles; exempt certain vehicles; permit owners to make their own installations of approved devices under certain conditions; and otherwise regulate the installation of crankcase devices.

--Journal of the ASSE, Nov. 1963.

Columbia Basin Project: The Power Field Division, utilizing the Federal Guards, ran an unannounced seat-belt-use check on Government vehicles. The check showed 62 percent compliance. A week later another such check showed 90 percent compliance.

East Bench Project: All vehicles will have an exhaust system, winterization and brake inspection with corrective measures taken if necessary.

Safety Problems With Jeep Vehicles: The Bureau of Land Management reported that a recent inspection of their jeeps revealed that the brake line running along the top of the rear axle had been crushed by the tailpipe as a result of a broken pipe bracket. It was rather difficult to detect this condition due to the location of the brake line.

The local garage stated that this crushed brake line could result in loss of brakes on the right side as a failure of the brakes to release. There is also the possibility that the continual pounding or rubbing of the pipe on the brake line could rupture the line. The mechanic suggested that the tailpipe be cut off back of the bend and behind the bumper so that the bracket could not be broken so easily.

In checking over brakes, the garage also noted excessive grease in the rear wheel bearings which destroyed the effectiveness of the lining. Since we have regular 10,000-mile checkups, they suggested that the rear wheel grease fittings be removed and the wheels adequately packed every 10,000 miles. This would make it impossible for service stations to overgrease.

Tracy Field Division: A metal "Fasten Your Seat Belt" sign will be placed by the main gates at Tracy, Los Banos and Antioch Offices. Personnel are reminded to have their seat belts fastened while traveling within the grounds as well as outside.

VALUE OF COMBINED AUTO BELTS CITED

A Swedish physician visiting Denver said 70 percent of auto accident deaths and major injuries could be eliminated by a combination lap and diagonal chest belt if all autos had them. Dr. Bertil Aldman of Stockholm said the standard lap safety belts being used by Americans could prevent half the deaths and major injuries from wrecks if all cars had them. "A single lap restraint can prevent your ejection from the car and thereby give you some protection in case of an accident," Dr. Aldman said. "If you combine this lap belt with an upper torso restraint, this will prevent you from jackknifing forward and give you a protection against head injuries also." It is estimated about 10 percent of American cars are equipped with seat belts--almost all of them the lap variety. Dr. Aldman believes these are a good idea--although the combination lap and chest belt is much better, he added. "As long as the statistics show it's about five times as dangerous to be thrown out of a car as to remain in it during an accident, the lap belt is not being oversold," he said. "But this will not prevent you from breaking your teeth or cutting your face in minor accidents--so a combination lap-shoulder restraint is better and something to aim for."

--Rocky Mountain News, Nov. 8, 1963.

Ainsworth Field Division: Construction Engineer R. L. Boyce discussed the results of "Homeitis" or efforts exerted in inclement weather against safe ground travel of motor vehicles on the weekend trip home, inside carbon monoxide presence, plus relaxed condition after 10 hours of daily work could bring on drowsiness and cause an accident. Discussed was carbon monoxide properties, presence and effects to driver and passengers alike and that all automotive equipment can be a direct source of asphyxiation.

SAFETY AWARDS

REGION 5 OFFICE

Bureau employees of the Region 5 Office, Amarillo, Texas, have been awarded the Department of the Interior Certificate of Safety Achievement. During the period March 29, 1961, to June 30, 1963, the 108 employees of the Regional Office worked a total of 508,526 man-hours without a disabling work injury.

CANADIAN RIVER PROJECT

The Department of the Interior Certificate of Safety Achievement Award has been earned by Bureau employees of the Canadian River Project. The 110 employees of the project office worked a total of 503,372 man-hours without a disabling work injury in the performance of their regular duties during the period July 1, 1961, to August 31, 1963.

COLUMBIA BASIN PROJECT

Bureau employees of the Columbia Basin Project, Region 1, have been awarded the Department of the Interior Certificate of Safety Achievement. In the course of their regular duties employees of this project worked a total of 577,824 man-hours without a disabling injury during the period November 1, 1962, to February 28, 1963.

REGION 1 OFFICE

The Department of the Interior Certificate of Safety Achievement has been earned by Bureau employees of the Regional Office, Boise, Idaho. During the period November 1, 1959, to April 1, 1963, the employees of the Regional Office worked a total of 927,527 man-hours without a disabling work injury in the performance of their regular duties.

COLUMBIA BASIN PROJECT

Bureau employees of the Columbia Basin Project have been awarded the Department of the Interior Certificate of Safety Achievement (vehicles). In the course of their regular duties the employees of the project drove a total of 1,517,468 miles without a motor vehicle accident during the period October 1, 1962, to March 31, 1963.

KANSAS RIVER PROJECTS

The Department of the Interior Certificate of Safety Achievement Award has been earned by Bureau employees of the Kansas River Projects. During the period January 14, 1962, to July 12, 1963, the employees of the project worked a total of 1,020,199 man-hours without a disabling work injury.

Bureau employees of the Kansas River Projects Office also have been awarded the Department's Certificate of Safety Achievement (vehicles). In the course of their regular duties employees of this office drove a total of 522,499 miles without a motor vehicle accident during the period February 1, 1963, to June 1, 1963.

KLAMATH PROJECT

Bureau employees of the Klamath Project Office have been awarded the Department's Certificate of Safety Achievement (vehicles). Employees of this office drove a total of 1,114,500 miles without a motor vehicle accident during the period January 18, 1957, to August 12, 1962.

RED BLUFF CONSTRUCTION OFFICE

The Department of the Interior Certificate of Safety Achievement Award has been earned by Bureau employees of the Red Bluff Construction Office. In the course of their regular duties the employees drove a total of 569,374 miles without a motor vehicle accident during the period January 1, 1962, to December 31, 1962.

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PRECONSTRUCTION CONFERENCE

Excerpts from the minutes of a preconstruction conference on Stage 02 Additions to the Creston Substation, Transmission Division, Iowa--MRBP. Construction Engineer Rex Blackwell.

Safety

1. The prime contractor and the subcontractor have received a copy of "Safety Requirements for Construction by Contract." The provisions of the manual are mandatory.

2. The presence of the inspector is required in the energized substation whenever the contractor or his representatives are on the site. The Government has the right to stop work where practice is unsafe.

3. The contractor will have 1 man at the site with first-aid training and will provide a 16-unit first-aid kit for each 25 employees.

4. Drinking water and disposable paper cups will be furnished.

5. Doctor, hospital, and ambulance service will be provided when required.

6. The contractor submitted a safety program by letter of October 18. The safety points discussed at this meeting will become a part of the safety program as submitted. In addition, the following was discussed:

   a. The entire substation area is to be hard-hat area. Hats are to be nonmetallic. It was suggested that a sign be installed near the gate, stating: "Danger, construction. Hard hats are required in this area" or similar wording.

   b. Performance and static tests will be required on hoisting equipment, with a regular safety check of cables, brakes and mechanisms. Tests will be performed in the presence of the inspector.

   c. The contractor's men are experienced equipment operators.

   d. Equipment will have manufacturer's ratings posted on lifting equipment and such ratings will not be exceeded.

e. The contractor will rope off and flag energized areas.

f. Equipment working in or adjacent to energized areas will be grounded to the ground mat or structure grounding.

* * * * *

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH October 31, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	249	45,080	415,336							0.0	0.0		0	0
Denver Office	1,448	266,432	2,463,872		3			16		1.2	0.8		6	20
Alaska District	44	6,833	59,314		1			1		16.9	18.7		17	131
REGION 1														
Boise Regional Office	171	28,025	261,126							0.0	0.0		0	0
Central Snake Projects	50	7,103	70,553		1			10		14.2	13.0		142	13
Chief Joseph Dam Project	31	5,057	64,611							0.0	0.0		0	0
Coeur d'Alene Project	19	3,202	28,587							0.0	0.0		0	0
Columbia Basin Project	833	153,273	1,433,056		4	1		6,016		2.7	9.4		4,056	129
Hungry Horse Project	57	9,878	91,842	1	1		6	6	101.2	10.9	21.4	607	65	654
Lower Columbia Development	46	5,910	61,771		3			25		48.9	0.0		407	0
Minidoka Project	134	23,846	231,644		2			21		8.6	12.8		91	47
Rogue Project	2	368	6,250							0.0	0.0		0	0
Snake River Development	46	9,163	74,054		1			3		13.5	13.5		40	8,094
The Dalles Project	36	6,029	58,404							0.0	0.0		0	0
Upper Columbia Development	39	6,491	64,372		2			10		31.1	0.0		155	0
Vale Project	19	2,957	32,473							0.0	0.0		0	0
Yakima Project	28	4,648	44,741		1			4		22.3	22.3		39	67
Totals and Averages	1,511	265,994	2,573,090	1	15	1	6	6,095	3.8	5.8	8.5	22	2,369	337
REGION 2														
Sacramento Regional Office	603	110,952	1,027,528		6			259		5.3	7.6		252	75
Folsom Field Division	60	11,132	102,522							0.0	0.0		0	0
Fresno Field Division	156	28,704	255,688		1			98		3.9	15.5		383	236
Shasta Field Division	122	22,873	200,668	1	3		61	82	43.7	15.0	5.0	2,667	409	479
Tracy Field Division	180	33,764	316,384		2			95		6.3	9.5		300	277
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	28	5,208	52,237	1	1		5	5	192.0	19.1	0.0	960	96	0
Lahontan Basin Project	28	5,153	45,640							0.0	0.0		0	0
Red Bluff Office	100	18,400	190,464		1	1		6,000		5.2	0.0		31,502	0
San Luis Unit	477	91,441	725,752	1	8		7	128	10.9	11.0	0.0	77	176	0
Trinity River Division	125	23,000	304,724		3			38		9.8	2.1		129	12,477
Willows Field Office	37	6,808	38,536							0.0	--		0	--
Totals and Averages	1,916	357,484	3,286,212	3	25	1	73	6,705	8.4	7.6	5.3	204	2,040	1,979
REGION 3														
Boulder Regional Office	137	21,920	234,560	1	1		2	2	45.6	4.3	0.0	91	8	0
Boulder City Development	13	2,424	20,768							0.0	--		0	--
Boulder Canyon Project	141	26,390	266,454		2			53		7.5	10.9		199	323
Colorado River FW&LS	87	12,760	127,891		2			8		15.6	23.8		62	222
Parker-Davis Project	310	50,813	485,819	1	2		11	22	19.7	4.1	12.7	216	42	154
Phoenix Development	130	20,800	175,934		3			233		17.0	10.3		1,324	10
Southern California Development	29	4,123	29,721							0.0	0.0		0	0
Yuma Projects	219	33,792	288,060		1			50		3.5	8.7		174	22
Totals and Averages	1,066	173,027	1,629,207	2	11		13	368	11.6	6.7	10.6	75	226	138
REGION 4														
Salt Lake Regional Office	108	17,193	166,453		1			1		5.8	5.8		95	188
Emery County Project	44	8,737	68,888							0.0	0.0		0	0
Central Utah Projects	145	26,459	232,459		1			20		4.3	11.4		36	435
Curecanti Unit	97	15,469	156,619							0.0	15.9		0	47,725
Flaming Gorge Unit	122	15,722	214,534	1	1		20	20	63.6	4.7	3.9	1,272	93	1,066
Glen Canyon Unit	312	57,408	602,434		1			14		1.7	5.1		23	1,339
Navajo Unit			8,603							0.0	9.4		0	94
Power Operations Office	33	5,672	17,926							0.0	--		0	--
Transmission System Office	73	13,432	131,838		1			12		7.6	6.9		91	21
Durango Projects	72	12,228	140,088		1			32		7.1	12.5		228	75
Grand Junction Projects	93	17,494	155,514		3			15		19.3	9.1		96	359
Logan Development	13	2,392	23,878							0.0	0.0		0	0
Seedskadee Project	70	11,434	127,990							0.0	7.1		0	313
Upper Green River Project	17	2,720	30,320							0.0	0.0		0	0
Weber Basin Projects	208	38,272	369,658	1	1		11	11	26.1	2.7	0.0	237	30	0
Totals and Averages	1,607	276,631	2,827,202	2	10		31	154	7.2	3.5	6.0	112	54	2,503
REGION 5														
Amarillo Regional Office	111	17,760	197,202							0.0	0.0		0	0
Albuquerque Development	38	8,972	63,245							0.0	0.0		0	0
Austin Development	63	8,972	110,247							0.0	0.0		0	0
Canadian River Project	149	37,750	269,697							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	34	6,552	80,472							0.0	0.0		0	0
Middle Rio Grande Project	224	53,423	408,519		7			45		17.1	9.2		110	83
Navajo Indian Irrigation Project	65	11,888	82,528		1			2		12.1	0.0		24	0
Norman Project	77	12,908	135,324							0.0	0.0		0	0
Oklahoma City Development	30	4 650	45 393							0.0	--		0	--
Rio Grande Project	253	42,248	474,436		3			48		6.3	9.9		101	53
San Angelo Project	8	980	41,574							0.0	12.9		0	639
San Juan-Chama Project	66	10,603	71,267		1			5		14.0	--		70	--
Wichita Project	51	9,838	112,840							0.0	12.6		0	13
Totals and Averages	1,169	229,444	2,092,744		12			100		5.7	6.0		48	82
REGION 6														
Billings Regional Office	244	39,213	390,789							0.0	2.7		0	1
Canyon Ferry Project	21	3,255	30,829		1			18		32.4	0.0		584	0
East Bench Project	63	11,476	113,612							0.0	0.0		0	0
Fort Peck	35	5,006	55,438					11		18.0	18.6		198	316
Missouri-Oahe Projects	266	45,121	436,717	1	5	1	30	6,130	22.2	11.4	9.0	665	14,037	539
Missouri-Souris Projects	121	18,527	199,834		2			12		10.0	4.2		60	25
Power System Operations	41	6,560	70,480							0.0	0.0		0	0
Riverton Project	31	4,890	49,052		2			162		40.8	20.8		3,303	374
Upper Missouri Projects	73	12,629	134,609							0.0	23.9		0	257
Yellowtail Project	136	21,035	205,359							0.0	11.0		0	133
Totals and Averages	1,031	167,712	1,686,719	1	11	1	30	6,333	6.0	6.5	8.1	179	3,755	230

(Continued next page)

CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH October 31, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	176	32,384	296,416							0.0	0.0		0	0
Denver Development	31	5,776	51,480							0.0	0.0		0	0
Fryingpan-Arkansas Project	110	NR	116,079		2			404		17.2	--		3,480	--
Kansas River Projects	306	56,304	559,800							0.0	1.7		0	14
Niobrara-Lower Platte Projects	257	41,120	471,520		1			6		2.1	0.0		13	0
North Platte River Projects	333	53,360	526,401					10		0.0	0.0		17	0
South Platte River Projects	167	26,720	278,664		2			12		7.2	13.5		43	115
Totals and Averages	1,380	215,664	2,300,360		5			432		2.2	2.2		188	19
CONSOLIDATED TOTALS	11,417	2,004,061	19,339,056	9	93	3	153	20,204	4.5	4.8	5.6	76	1,045	820
TOTALS LAST YEAR (1962)	11,190		22,611,296		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 62 THROUGH October 31, 19 62

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	16	2,252	20,537							0.0	0.0		0	0
Columbia Basin Project	129	15,217	168,834							0.0	5.2		0	16
Coeur d'Alene Project	8	1,576	35,104							0.0	0.0		0	0
Hungry Horse Project	38	3,969	9,120	1	1		9	9	252.2	109.3	0.0	2,270	984	0
Minidoka Project	20	1,080	2,587							0.0	0.0		0	0
Rogue Project			8,427							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	16	2,396	61,601							0.0	--		0	--
Vale Project	25	3,096	61,862							0.0	41.5		0	62,625
Yakima Project	18	1,220	15,450							0.0	0.0		0	0
Totals and Averages	270	30,902	383,586	1	1		9	9	32.5	2.6	11.8	292	23	14,269
REGION 2														
Distribution System Projects			18,390		2			15		108.8	51.3		816	1,254
El Dorado Distribution			11,399							0.0	50.6		0	487
Fresno Field Division			8,711		2	1		6,021		229.5	0.0		691,199	0
Klamath Project			1,590							0.0	0.0		0	0
Red Bluff Office	221	47,728	289,288		1			21		3.5	20.6		73	767
San Luis Unit	1,210	192,981	1,080,318	4	18	1	34	6,357	20.7	16.7	0.0	176	5,834	0
Tracy Field Division			7,975							0.0	0.0		0	0
Trinity River Division	158	21,003	270,530	1	13		13	6,155	47.6	35.1	40.4	619	16,611	5,310
Totals and Averages	1,589	261,712	1,788,201	5	36	2	47	18,569	19.1	20.1	38.0	130	10,334	3,871
REGION 3														
Colorado River FW&LS			21,270							0.0	0.0		0	0
Parker-Davis Project	211	38,628	120,779		2			95		16.6	125.1		787	3,566
Phoenix Development	10	800	6,500							0.0	0.0		0	0
Yuma Projects	116	17,038	39,798	1	3		30	660	58.7	75.4	15.2	1,761	16,584	394
Totals and Averages	339	56,468	188,347	1	5		30	755	17.7	26.5	20.3	531	4,008	560
REGION 4														
Central Utah Projects	7	424	8,971		1			100		111.5	43.8		11,147	1,546
Curecanti Unit	370	70,431	630,644	5	17	1	54	6,232	71.0	27.0	13.0	767	9,561	774
Flaming Gorge Unit	551	118,345	921,288	2	22	2	42	12,994	16.9	23.8	7.1	392	14,104	4,268
Glen Canyon Unit	1,602	346,379	2,788,057	1	40	2	5	13,393	2.9	14.3	22.2	14	4,804	3,035
Navajo Unit			32,081							0.0	15.5		0	414
Emery County Project	197	32,068	96,307		3		62	107	31.2	31.2	0.0	1,933	1,111	0
Florida Division	124	26,947	290,253		5			6,135		17.2	27.4		21,137	629
Grand Junction Projects			11,292							0.0	19.4		0	315
Seedskadee Project	229	55,305	554,015		4	2		12,116		7.2	6.7		21,869	142
Weber Basin Projects	473	89,641	594,555	6	13		39	94	66.9	22.0	37.0	435	159	16,400
Totals and Averages	3,553	739,540	5,924,463	15	105	8	202	51,221	20.3	17.7	18.2	273	8,646	3,300
REGION 5														
Amarillo Regional Office			8,177							0.0	0.0		0	0
Austin Development			1,223							0.0	0.0		0	0
Canadian River Project	512	104,255	845,360		9			91		10.6	26.3		108	494
Lower Rio Grande Rehabilitation	258	36,927	179,252					2		5.6	29.7		11	193
Norman Project	241	39,562	214,215	2	2		43	49	50.6	9.3	131.8	1,239	229	1,384
Oklahoma City Development			2,471							0.0	--		0	--
Rio Grande Project			7,553							0.0	0.0		0	0
San Angel Project			2,887							0.0	26.5		0	20,388
San Juan-Chama Project	54	8,303	14,796							0.0	--		0	--
Wichita Project	133	37,542	294,414		2			327		6.8	0.0		1,111	0
Totals and Averages	1,198	226,589	1,618,350	2	14		49	469	8.8	8.6	27.1	216	290	11,007
REGION 6														
East Bench Project	276	49,279	346,903		13			296		37.5	40.8		853	623
Missouri-Oahe Projects	310	43,421	187,621	3	9		46	144	69.1	48.0	22.2	1,059	767	16,714
Missouri-Souris Projects	79	9,075	147,002		3			77		20.4	37.0		524	1,495
Riverton Projects	13	1,117	12,209							0.0	42.4		0	551
Upper Missouri Projects	3	320	11,187		1			3		89.4	0.0		268	0
Yellowtail Project	770	137,339	1,019,088	1	5	4	56	24,056	7.3	4.9	10.6	408	23,605	347
Totals and Averages	1,451	240,553	1,724,010	4	31	4	102	24,576	16.6	18.0	21.2	424	14,255	4,279
REGION 7														
Fryingpan-Arkansas Project			3,088							0.0	--		0	--
Kansas River Projects	318	75,647	541,139		2			215		3.7	12.1		398	4,306
Niobrara-Lower Platte Projects	505	122,029	755,058	2	10		45	151	16.4	13.2	18.4	369	200	7,563
North Platte River Projects	211	35,683	66,964		3			108		44.3	62.9		1,613	754
South Platte River Projects	10	771	5,063							0.0	0.0		0	0
Totals and Averages	1,044	234,131	1,371,312	2	15		45	474	8.5	10.9	16.5	192	346	6,221
CONSOLIDATED TOTALS	9,442	1,789,795	12,998,269	30	207	14	484	96,073	16.8	15.9	221	270	7,391	5,030
TOTALS LAST YEAR (19 61)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

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SAFETY RECORD

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

November 1963

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TABLES

Safety Performance Record

Government--January - November 1963	31-32
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Front Cover Photo: Project Manager James M. Ingles, left, presenting Safety Citation Award to Allen D. Strunk, Editor, McCook Daily Gazette. Bureau of Reclamation photo.

SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
January 1, 1963 - November 30, 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 7	2.0	169	3.4	2.9
Region 4	2.9	40	1.2	2.6
Region 5	5.3	44	2.3	4.1
Region 1	5.7	2,167	123.5	2.2
Region 6	6.0	3,437	206.2	2.4
Region 2	7.0	1,866	130.6	5.5
Region 3	8.3	214	17.8	3.8
Alaska District	15.5	15	2.3	0.0
Totals to Date	4.6	952	43.8	3.5
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	2.4	22	0
Region 5	9.2	297	0
Region 7	11.5	353	0
Region 4	17.4	7,913	8
Region 6	19.2	12,844	4
Region 2	19.7	12,170	3
Region 3	19.9	3,000	0
Totals to Date	15.9	7,065	15
Totals Last Year	21.4	4,652	9

LOST TIME ACCIDENT ANALYSIS

Government Forces - 1963

Cumulative to Date:
November 30, 1963

A. ACCIDENT CLASSIFICATION:

Type	Description	No.	Days lost
2	Aircraft	1	6,000
5	Vehicles	9	12,317
7	Explosions	1	6
9	Electricity	3	27
12	Handling Material	24	839
13	Falling Objects	5	36
14	Falls of Persons	16	317
15	Jumping to Places	2	5
16	Striking Against	4	16
17	Flying Particles	3	37
18	Handtools	6	52
19	Machinery	3	138
20	Not otherwise classified	20	405
	Totals	97	20,195

B. OPERATIONAL SUMMARY:

Operation	Man-hours	No. of accidents	Days lost	Frequency rate	Severity rate
Administration	5,123,051	4	19	0.8	4
Construction	5,362,317	25	6,332	4.7	1,181
Design	2,235,867	2	11	0.9	5
Investigation	2,658,126	23	953	8.6	358
O&M-Irrigation	2,596,164	22	621	8.5	239
O&M-Power	3,229,933	21	12,259	6.5	3,795
Totals	21,205,458	97	20,195	4.6	952

C. SERIOUS ACCIDENTS: (Personal Injury)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000
9-12-63	Guard	Vehicle accident (drowning)	6,000

ACCIDENT REVIEW

SCRAPER UNITS

Employer: Contractor
Activity: Backing parked scraper.
Accident Situation and Occurrence: In preparation for starting of shift work, a scraper operator stood in front of his parked scraper rig, cleaning the headlights. Another scraper unit that was parked some 8 feet in front of him, backed up and pinned him between the two units. The operator received fatal injuries.
Cause Determination: Failure of the operator to use a signalman when backing up in close quarters. Earth-moving equipment should be properly parked, with adequate spacing, to eliminate the need for backing up.

SCAFFOLD

Employer: Contractor
Activity: Erecting scaffold.
Accident Situation and Occurrence: Employee had placed a plank in order to set a center bracket for scaffolding. The plank slipped off its support when the employee stepped on the plank. He fell some 13 feet to the ground landing on his feet. Received fractured heel with 90 days' estimated lost time.
Cause Determination: Failure to use safe erection methods in building scaffold. Use of properly tied-off safety belt would prevent such falls.

RIVET GUN

Employer: Contractor
Activity: Driving rivets.
Accident Situation and Occurrence: Ironworker was using an air-hammer to drive rivets. The rivet gun stuck and he removed the button from the end. He then bounced the gun on a timber to remove the plunger, having the trigger depressed. This did not work so he turned the gun up and looked into the barrel. The plunger struck him on the top edge of his eye and forehead. Lost time was estimated at 60 days.
Cause Determination: While the employee was an experienced ironworker he obviously committed an unsafe act by looking into the barrel with the trigger on.

TAR HEATING KETTLE

Employer: Contractor
Activity: Heating plastics in special kettle.
Accident Situation and Occurrence: A tar heating kettle was being used to heat a plastic for sealing roof joints. The kettle exploded and threw flaming oil and tar on employees. Burns to back and face of two employees causing estimated lost time of 17 and 21 days.
Cause Determination: Defective temperature gage. This kettle uses a special oil in a reservoir under the pot so that the flame does not come directly into contact with the pot. The oil is heated by bottled gas. Apparently the thermometer in the oil stuck allowing the oil to reach the flashpoint (over 700°), and explode. The heating temperature recommended is 550°.

* * * * *

SAFETY CITATION AWARD PRESENTATION

The front cover photo shows Project Manager James M. Ingles, Kansas River Projects, presenting a Safety Citation Award to Allen D. Strunk, editor of the McCook Daily Gazette. Mr. Strunk served as President of the Water Safety Council of the Great Lakes of Nebraska in calendar year 1962. Allen Strunk conducted the affairs of the Council in a commendable and effective manner. The award was presented at a meeting of the Council held the evening of November 19, 1963.

* * * * *

VEHICLE SAFETY

DRINKING AND DRIVING

According to an article by Palmer Stinson, Oakland Police Department, appearing in December Traffic Safety, figures compiled by the California Highway Patrol indicate that one out of every three drivers killed in a California automobile accident had been drinking immediately before the fatal collision. Carefully documented studies of the Coroners' records by the Oakland Police Department and the California Traffic Safety Foundation show that 55 percent of the adult drivers killed in traffic accidents had significant amounts of alcohol in their blood stream at the time of death.

NOT MUCH OVERHEAD

Something new in driving instruction was attempted by an Englishman who set up a "school" in which he used rather unorthodox equipment. Trainees sat in a swivel chair, used a dinner plate for a steering wheel, a poker for a gearshift lever and tennis balls as foot controls. The "course of instruction" cost the equivalent of $17.64. The school closed suddenly when the police charged the operator with obtaining money under false pretenses.

CARS, CARS, EVERYWHERE

Motor vehicle registrations are expected to total 82,058,000 for 1963, an increase of 3,035,000 or 3.8 percent more than the 79,022,916 vehicles registered in 1962, according to the Bureau of Public Roads. Passenger car registrations are expected to total 68,452,000, an increase of 3.8 percent, and trucks and buses 13,000,000, an increase of 3.9 percent.

THEY DON'T REPEAT

Teenage drivers who break traffic laws in Columbia, Mississippi, are required to write a 500 to 1,000 word theme on reckless driving and read it to the mayor and police officers. During the past 5 years, only one teenager has written his second essay.

--Traffic Safety, December 1963

FROM THE FIELD

Willows Field Office: California Highway Patrolman William Flanagan was guest speaker at the November 21 project safety meeting. After showing the film "Passing Fancy," Patrolman Flanagan reviewed some of the more important changes recently made in the Vehicle Code.

Curecanti Unit--Project Safety Committee Meeting: Mr. Seery pointed out that the "Safety Requirements for Construction by Contract" manual is to be considered as much a part of the contract as concrete, earth and equipment specifications. He stated that it is our intention that the contractor comply with the provisions of this manual. It is the inspector's responsibility to see that the safety requirements are complied with, the same as the other specifications. Inspectors can do as much toward getting safety hazards corrected as anyone in the Bureau. -- To bring inspectors up to date on safety requirements, a training session will be held by the Safety Engineer. In addition, one section of the manual will be discussed in the Supervisors' Safety Committee Meeting and this information will be taken down through toolbox meetings to all personnel. -- Foremen's toolbox safety meetings minutes were discussed and it was brought out that each hazard observed and reported should be corrected immediately by the reporting inspector. If this cannot be done, the minutes will be forwarded to the Field Engineer for attention of the Safety Engineer or Project Construction Engineer for action. -- It was suggested that, before the contractors' general safety meetings with Bureau representatives, one or two members of the committee tour the project to determine whether previous recommendations have been acted upon and to observe hazards requiring attention that could be reported at the meeting.

Wichita Project: Eleven safety meetings were held by the contractor during the month for discussions on unsafe conditions and problems. Items covered include fill ramps, steep slopes, and narrow Zone 1A placement, general haul-road driving, and illumination problems on the fill.

San Luis Unit--Canals Division: At a supervisory Safety Committee Meeting, M. W. Archibald, Chief, Canals Division, told the group that there are teeth in the Bureau safety program. He then read Paragraph 10, the standard health and safety statement found in all Bureau contracts. Mr. Archibald said that these are the basic tools which are employed with respect to safety on Contractor's operations. Each inspector is a safety man and must be familiar with Paragraph 10 and the Manual "Safety Requirements for Construction by Contract." Mr. Archibald commented that the job description for each inspector would be changed to include a paragraph charging each inspector with the responsibility for safety on his phase of the job. (In this connection, reference should be made to the Commissioner's letter of 7-21-61 to all regions on the subject, "Recording responsibility for safety in position descriptions.")

South Platte River Projects: Regional Safety Engineer, G. D. Winans, Region 7, Denver, was guest speaker at the Northern Colorado Water Safety Council monthly meeting held in Loveland on November 7.

Trinity River Division: Responsibility of the various prime contractors working in the same area and/or under the same roof for conducting a safety program commensurate with the work under contract was discussed at the Supervisory Safety meeting held on November 21. At this time Project Construction Engineer H. E. McInnis suggested setting up a joint safety meeting with the contractors involved to discuss a joint safety program. -- Safety hazards at access ladders, access to gaging stations, and access to control valves at various project structures were discussed. In order to facilitate the Project safety program, Mr. McInnis appointed a six-man safety committee to investigate and make recommendations for modification of unsafe features. -- "No Trespassing" signs have been installed at Whiskeytown Dam and outlet works as suggested at a prior safety meeting.

San Juan-Chama Project: Four rotary rigs and two cable-tool rigs were active in drilling along the tunnel line. Guards were installed over the unguarded shafts of two of the rotary rigs and new steel cables were installed on three rigs used by the drilling contractor.

Minidoka Project: Bonneville Power Administration Safety Officer Merle Basset provided a high-voltage grounding demonstration at the Rural Electric Company Office in Rupert on November 26. Nine Bureau personnel attended the demonstration which vividly illustrated the need for proper grounding.

Shasta Field Division: New dual-wheel flap guards were installed on the dump truck to replace the old ones which were too short to be effective. The general maintenance crew requested square-sided tubs for use in picking up leaves in camp. More leaves can be handled in less time and it would reduce the number of lifts up into the dump truck. -- The operators at Clear Creek Powerplant reported a potential accident-causing operation involving the turning of the turbine servomotor locking nuts. Because the spoke-equipped nuts could not be operated by hand, a leverage tool was furnished to fit over the spokes. Due to the roundness and shortness of the spokes, this tool frequently slips off and could cause injury to the operator. Action is being taken to correct this condition.

WHAT'S YOUR CONSTRUCTION SAFETY IQ?

Based on construction safety requirements contained in the Bureau publication "Safety Requirements for Construction by Contract," Third Edition, September 1962.

1. Asphalt shall not be heated above the flashpoint of the particular material being used. T F

2. Fire extenguishers are not required at locations where asphalt is being heated or kettles are being used. T F

3. Asphalt heating operations shall be attended at all times and a thermometer shall be provided. T F

4. In extreme cold weather asphalt materials may be cut with gasoline or other similar volatile material. T F

5. Water in asphalt causes no particular problem except in freezing weather. T F

6. There is no particular hazard to workmen in the heating, pumping, and application of asphalt. T F

7. Exposed rotating parts of asphalt plants shall be guarded, safe access and operating platforms shall be provided, and hot oil pipes shall be insulated. T F

8. Gases or vapors given off by asphalt products when heated are neither toxic nor combustible. T F

9. There is no need for special clothing or protective devices when handling heated asphalt products. T F

10. Rope nets may be required for some construction operations and, when used, must be kept free from materials and abreast of operations. T F

11. In the erection of structural steel, the load line may be removed from the member as soon as it is positioned and held in place with driftpins. T F

12. Snaps and plungers of pneumatic hammers require no special precautions. T F

13. Scaffolds are not required for riveters when working on structural steel. T F

For answers refer to page 15.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION, DENVER FEDERAL CENTER
IRRIGATION OPERATORS WORKSHOP - 1963

Presented by E. R. Wheeler, Salt River Project

Mr. Latham and Gentlemen:

Believe me when I say that we of the Salt River Project are both thrilled and pleased to be given the opportunity to participate in this Irrigation Operators Workshop and now take this opportunity to thank Mr. Bellport, Chief Engineer, and Mr. Latham, Chief Safety Engineer, for their kind invitations.

You should know, however, that your Mr. Latham is a very determined person and will not be denied as evidenced by the fact that he first called our general office long distance, concerning this invitation, had the call relayed to our Power Operations Office who put it on short wave radio and then was received by me over a mobile unit sixty miles from Phoenix on the Apache Trail.

Now to the task in hand. You may already know that the Salt River Project is the unofficial name of our operation which is composed of the Salt River Valley Water Users' Association and the Salt River Power District (Partners in Progress), employing upwards of 1,800 persons. The Project irrigation operation serves an area of some 241,000 acres or 377 square miles.

Today, with your permission, I will discuss the matter of personnel and property conservation as administered in the Salt River Project, with the sincere hope that something said here today may be helpful to you.

Millions of words have been written by earnest and sincere men on this subject of industrial safety - by the psychiatrist, the psychologist, the educator, the doctor, and the engineer, and each has made invaluable contributions to the sum total of our knowledge and understanding.

Today, however, I would like to bring the overworked word "safety" back into the practical field of personnel and property conservation, especially as it concerns a reclamation project or district, and the normal day-to-day activity of conducting a business, for profit or service, as the case may be, which benefits the employee, the project, and the public alike.

You gentlemen already have safety programs or accident prevention programs, whichever you are pleased to call them, well established in your own operations. However, even though you may have such a program, is it possible that it may have gone stale - just a little - maybe it needs a shot in the arm - or perhaps you don't even have a formalized program. There are many reasons why such a program should be initiated.

One of the best that I know of is that you cannot afford not to have one and still stay in business and I will demonstrate this as I proceed with the discussion today. I will start with giving you the same reasons which motivated the Salt River Project in initiating such a program in 1950.

First, a number of serious injuries indicated the urgency of taking immediate and positive steps to prevent them.

Second, the industrial insurance rate of $4.50 per $100.00 of payroll.

Third, as a result of the then current incidence of injuries the insurance rate would conceivably go even higher unless some action was taken to prevent them.

Who initiated the necessary action aimed at correcting this situation. Top Management in the person of the General Manager.

The start was a modest one - too modest. Management was wisely anxious to avoid the so-called "morning glory" programs which start out with a great head of steam like an election campaign and then fold up the day after election and so settled the matter by appointing a full-time Safety Supervisor and assigned to him the full responsibility for the design and administration of an accident prevention program.

In 1952 Management realized that it required more than just the setting up of a safety division with safety rules and first-aid training and publicized a memo, in lieu of a policy statement, directed to operating supervision defining their responsibilities for conducting safety meetings and requiring cooperation with the safety division.

As soft as this approach was, it was still a start in the right direction, and it put the safety program on the trolley with the result, as shown on the chart, that the frequency of accidents dropped of its own weight, as you can see, and the rate of insurance was reduced from $4.50 to $2.68 per $100.00 of payroll. This amounted to an improvement of 40% and was the direct result of top Management assigning limited responsibilities. Further decreases will necessitate increased expenditures on the overall conservation effort as indicated by the red line near the bottom of the chart.

Had the memo been written at the start in 1950, this reduction would have been realized in 1951 instead of 1952.

As you can see by this bar-chart, dollars make a very good yard-stick or index by which to measure the progress or success of the effort.

However, this soft, or phase one, approach to safety, although very successful, as you can see, does not allow for expansion. The Project has grown from an operation employing 700 persons in 1952 to where, at the present, it employs upward of 1,800 and we anticipate this number to be 2,500 in five more years.

Times, conditions, equipment, methods, and plants are constantly undergoing a transition, and so-called safety programs must be stream-lined and so become personnel and property conservation programs integrated with operating functions as prime responsibilities of operating management.

In anticipation of this, our management is up-dating and publicizing a formal statement of policy in which they set minimum standards for conservation less than which will be regarded as sub-standard performance and treated as such.

Attached to this is the plan and procedures in which all levels of Management down to and including the first-line supervisor or foreman, are responsible to the General Manager, who, in turn, is responsible to the President for implementing safety and property conservation. Particular responsibilities are assigned to the Safety Division who administer the program as a staff function.

This action provides the vital spark to the success of any endeavor involving an industry - the recognized leadership which only Management can provide - the all-essential pressure comparable to the head behind a flow of water which insures an efficient distribution right down to and including the last acre of ground. This is integrating conservation with operations. It is pouring the cream back into the whole milk of production where it belongs.

This organizational chart shows the position occupied by the Safety Division and its relation to the organizational structures, and defines the lines of communication, the solid lines indicating the direct or line responsibilities.

You will note that the Safety Supervisor is responsible to the Personnel Director, who is, in turn, responsible to the General Manager. The Safety Division performs a staff service to Management and is responsible for assisting in the formulation of sound procedures designed to meet the stated objectives of the Safety and

Conservation Policy, for providing information and counsel for line supervision, for training programs and incentives, for inspections, for securing, testing, and recommending equipment, etc., for periodic audits of operating locations, including performance under the plan, and for reporting results to Management.

The dotted line indicates staff administrative functions as they concern first-line supervisors and employees.

These functions are coordinated through two Central Safety Committees, one of which resolves the problems of the Water Users' Association, and the other of the Power District.

This is a joint effort, the Committee membership being composed of an equal number of employee and Management members with Safety Division personnel serving as Secretary and agents of both Committees.

The scope of Central Safety Committee activities are: to recommend matters of policy concerning training methods, receiving and disposing of accident reports and statistics, investigating serious or unusual accidents and/or situations, recommending disciplinary procedures and projecting future plans for the advancement of the Conservation program.

We are very proud of these Committees as they involve both employee and Management in the mutual effort to conserve the people, and, of course, the property of the Project and the Community we serve.

In describing these lines of communication, may I point out an area which deserves special attention - the area of the foreman-employee relationship.

Supervision, it has been well said, is Management in action. It is through these people, department managers, superintendents, and supervisors, that the plans of Management are interpreted into the safe and efficient production for which they are responsible.

But by his very position in the line organization, it is the foreman who is the final and all-important contact between the Management team and the employee. He has the responsibility for seeing that the job is done right and according to plan. He is responsible for all elements of the work under his supervision, most important of which is the safety of his people. He is the balancing influence between job demands, on one hand, and employee needs on the other. He is a first-line supervisor, and to the average employee, he is the Company.

In the past, foremen were frequently selected from among our Project employees only on the basis of workmanship, seniority, and possibly a pleasing personality. Granting that this method of selection produced a number of good supervisors, these qualifications alone, in some instances, proved insufficient to enable them to assume all of the responsibilities assigned to them as supervisors.

Having been selected in this manner, the newly created supervisor put aside the working tools with which he was so skilled, and in their stead was required to work with and through people whose work performance became a direct reflection of his qualities and skill as a supervisor.

A lack of necessary preparation can instill a defensive attitude in the minds of many supervisors, both new and old. They may resist changes to the old, well established methods, discuss Company policies from the employee level rather than from that of Management, of which they are now a member, encounter many personnel problems with little or no knowledge, in many cases, of how to handle them, and generally, except from a purely job-knowledge standpoint, are unable to accept the full responsibilities of a supervisor. Many well devised and beneficial plans and programs fail at this level through misinterpretation or none at all.

Obviously the solution is not only to help the foreman become aware of the knowledge, responsibilities, and skills which he must possess as such, but also to provide him with the means of securing them.

In answer to this problem, the Project conducts Supervisory Development Programs designed to acquaint the supervisor with his responsibilities and help him acquire the knowledge and techniques necessary to insure the maximum utilization of employee skills, bearing in mind that the principal jobs of the supervisor are the very activities through which the work of preventing accidents is carried out.

We believe that careful selection and training of our foremen is one of the most effective efforts we have made to date as no safety or conservation program, no matter how well conceived and administered, can be successful without the wholehearted, intelligent support of capable first-line supervisors.

Gentlemen, this, in general, is the manner in which the Salt River Project has approached the problem of accident prevention and with considerable success.

Such a program costs money - certainly it does - but let's take a look at some figures and see if the results justify the expense.

Let us assume that in 1950 the Project took no action regarding the prevention of industrial injuries.

Now, on the basis of no action, let's apply the 1950 rate of $4.50 per $100.00 of payroll to our 1962 payroll of $10,700,000 which would then have resulted in an annual premium of $481,500.

By way of contrast, let's apply our 1962 rate of $1.30 to the same payroll. The result shows a saving of $342,400 or 71% on the premium to cover insured losses.

Do not forget the uninsurable losses which are attendant to accidental injuries. The grand old man of industrial safety, H. W. Heinrich, as well as the National Safety Council, established a ratio of 4 to 1 as a conservative formula for estimating these losses in lieu of expensive cost accounting. In other words, on an average for every $100.00 paid out in industrial compensation and benefits, the company losses are $400.00 as the result of interrupted schedules and deliveries, overhead, slow-downs, damaged equipment, lost time, retraining, investigation, etc.

We will be really conservative and use a ratio of 2 to 1 and apply this to the insured losses in each case and note the totals in the right hand columns. The difference between them amounts to over a million dollars.

How much did it cost for the 1962 safety program? $75,000 total cost, which includes cost of protective equipment, time lost while attending safety and first-aid training sessions, safety devices, including hot-stick tools and protective devices for line work, administrative expenses, etc., which still leaves a net saving on insured and uninsured losses in the amount of $952,200.

I believe the procedures outlined during this discussion can be "tailored to fit," depending on the size and nature of the operation concerned.

Certainly we are agreed that conservation through accident prevention is first and foremost the humanitarian thing to do; further, we can demonstrate that results more than justify the expense, and last, it is the moral, economic, and legal responsibility of a mature Management.

Mr. Latham has assured me that copies have been made available to all who desire them of the Salt River Project Safety and Property Conservation Policy and Plan as well as our Safety Program Organization and Planning.

* * * * *

ANSWERS TO SAFETY QUIZ

1. (19-8) T	6. (19-14-16) F	10. (18-2) T
2. (19-10) F	7. (19-17-21) T	11. (18-6) F
3. (19-11) T	8. (19-6) F	12. (18-10) F
4. (19-12) F	9. (19-7) F	13. (18-13) F
5. (19-12) F		

*( ) Refers to appropriate paragraph of "Safety Requirements for Construction by Contract," Third Edition, September 1962.

BUREAU OF RECLAMATION, DENVER FEDERAL CENTER
IRRIGATION OPERATORS WORKSHOP - 1963

Operation and Maintenance Safety

Presented by K. E. Surratt, Salt River Project

It is certainly safe to say that the dollars saved by a reduction in overall cost of injuries will surely pay for designing with safety in mind. An old expression used is, "It costs more to have accidents than to prevent them."

A well known analyst (Heinrich) states that: 2 percent of all accidents are an act of God; 10 percent of them are the result of unsafe mechanical or physical conditions; 88 percent are the result of unsafe acts or a combination of unsafe acts and unsafe mechanical or physical conditions. So let's learn about the hazards, find and name them, select a remedy, and apply the remedy.

The elimination of physical hazards to the maximum practicable degree is a requisite to first-grade safety performance. The design of new structures, the tiling of ditches and laterals, and the purchase of safer tools and equipment should all be carried out with safety kept in mind - the safety of employees and the general public. I mention the public because all our storage dams, canals, and laterals are used as recreation facilities by the public.

Irrigation projects are spending millions of dollars each year in lining canals, building new and safer structures, and tiling ditches and laterals to provide a safer place in which to live and work. Many of our canals and structures are in heavily populated areas which gives easy access to the public for fishing and swimming; therefore, the amount of protection is based on the degree of exposure. We find that the best protection we can give is through the media of education - first, educating ourselves, and then educating the public.

The Salt River Project has 1,275 miles of laterals, canals, and ditches. The average cost of enclosing 1 mile is $30,000. To date, we have covered 246 miles of laterals, 30 miles of waste ditches, and have improved 44 miles of canals. But I would like to bring your attention to the fact that there are hundreds of miles of ditches that are privately owned. In fact all the ditches beyond the high point of each quarter section within the Project are privately owned. Before laterals and ditches are completely eliminated as a hazard, all those which may become an "attractive nuisance" must be enclosed. It seems to me that the only thing that will achieve immediate results is for all of us to educate ourselves and the public to

recognize these hazards and do all we can, such as planning and designing, to prevent accidents and drownings in our facilities.

To protect our employees certain personal protective equipment is a job requirement. Most of these items are furnished by the Project, and the balance is partially subsidized.

Employees are required to wear safety-toe shoes on all jobs where the accident frequency of toe injuries indicates the necessity for such protection. In these divisions this type of protection becomes a job requirement, and the Project subsidizes, in the amount of $5.00, the purchase of the first pair of safety-toe shoes. This policy covers all new employees and employees transferring to a division requiring foot protection.

Head protection is a job requirement for all field and shop personnel with the exception of zanjeros or ditch riders whose work does not bring them into contact with the hazards causing head injuries.

Since the Salt River Project is a composite of an irrigation facility and an electric utility, all protective hard hats are dielectric. This eliminates the possibility of improper head protection being employed by climbing personnel.

The average man's head weighs 14 pounds, the hat 14 ounces, and the ratio of protection is 1 ounce to 1 pound of head weight. The force of a falling object can be approximately calculated by multiplying the weight of the object by the distance it falls in feet.

Approved eye protection must be worn wherever and whenever there is danger to the eyes. Therefore, supervisory forces should familiarize themselves with all occupational eye hazards and see to it that proper eye protection is provided and used.

Every 20 seconds, somewhere in one of America's great network of industrial operations, a worker will either lose, permanently maim, or temporarily injure one of his eyes. Eye injuries total one-half million a year, and these are one-half million good reasons for eye protection.

How much is an eye worth? We are agreed that it is priceless. No amount of money would compensate for its loss. However, for the sake of this discussion, let us say that an eye is worth $5,000. We at the Project can account for five employees who have both their eyes today because they were wearing the proper eye protective equipment which we furnish. Based on the $5,000 estimate, this $25,000 will pay for our eye program for several years to come.

Respiratory protection is extremely important. Selection of respiratory equipment must be correct for the type of hazard exposure involved. We have found that this respiratory protection is a small problem to our irrigation operations, but there are a few instances when respiratory protection is needed. When the need arises, the Bureau of Mines approved protection is provided. When our personnel are performing abrasive or dry-sand blasting, air is supplied by a respirator at a comfortable temperature, free of odor and moisture and toxic gases. One of our major concerns is for employees who sometimes have to enter tiled ditches and laterals, to repair holes and remove obstructions, as they may come into contact with methane, a very toxic gas caused by rotting vegetation. Epoxies, used in a confined area, can also be harmful to the respiratory system. Therefore, it is of considerable importance to carefully select the proper equipment for the job. In selecting respiratory equipment, the following suggestions should be kept in mind: be familiar with the hazard, determine the conditions of exposure, and after thorough consideration of all contributing factors, select the type which furnishes adequate protection.

Incentive Programs: How do we maintain interest in our safety program: Keeping employees interested in accident prevention takes some understanding of their reactions. An incentive program is a powerful factor in building employee relations and it contributes to employee morale which is necessary to the success of the safety program.

The greatest problem when such incentive programs are employed is keeping these programs from becoming top heavy costwise. We have set a maximum cost and we abide by it. Our present program, which is only one of the many incentive programs used by various industries throughout the country, has proved to be very successful. At present, we have in effect three different incentive programs. They are: (1) The Industrial Award Program; (2) The Good Housekeeping Program; and (3) The Safe Driver Award Program.

All Project employees participate in the Good Housekeeping and Industrial Award incentive programs, with the exception of those classified as "office and others," as these employees are engaged in occupations which call for very little exposure to industrial injuries. In order to provide a fair basis of competition, the contestants are grouped together in such a manner as to provide each group with similarity of conditions and exposure. The program runs on a calendar-year basis, and any employee on the roster of a participating division as of December 31 of any calendar year is eligible to compete for the incentive awards.

Industrial Award Program: The purpose of the Industrial Award Program is to provide recognition for good safety performance and to bring about the reduction of industrial accidents by developing safety competition between and among participating divisions. The division or divisions having attained a no lost time accident record for the contest period will be the recipient of a suitably inscribed plaque. Each employee of the group receiving the no lost time accident award is presented with an individual award. A group safety award is presented to the unit of each contest group having the lowest accident frequency of that group. The award most desired by group participants is the President's Trophy, which is awarded on the basis of no lost time accidents with greatest number of exposure hours during the contest year. The award is made on a rotating basis and is kept in the division of the office during the following year. If any one division wins the award three times, they retain it permanently.

Good Housekeeping Program: Good housekeeping is important to accident prevention, and generally, good safety records go with good housekeeping. The purpose of the program is to establish methods and procedures for developing and maintaining safe and orderly premises. In carrying out these purposes, the program will have as its specific objectives (1) the prevention of physical injuries, (2) the improvement of employee efficiency and morale, (3) the conservation of tools and equipment, and (4) the promotion of a clean and orderly premises. The general procedures followed in attaining the objectives are as follows: The division, shops, and sections involved are arranged into competitive groups. This grouping is determined by the type of installation and operation as well as the similarity of housekeeping problems. Inspections are conducted on a scheduled basis by a competent team of inspectors. During each inspection, the supervisor of the facility being inspected is encouraged to accompany the inspectors. Specific rules and procedures are formulated to determine the winners. An award is presented to the winner of each group. In the event more than one department attains the highest maximum standards of good housekeeping, duplicate awards are made.

Inspections are made semiannually, or at the discretion of the inspectors. Each inspector scores the facility individually and the scores are then averaged to determine the winner. Group winners are presented with a suitably designed plaque depicting the elements of good housekeeping. Good housekeeping means, "a place for everything, and everything in its place."

Safe Driver Program: The purpose of the safe driver program is to serve as an accident prevention tool for the individual employee and for the improvement of the safety record as a whole. It further

serves as a guide to the possibility of future or additional accident prevention programs.

In carrying out these purposes, the program has as its specific objectives, (1) the promotion of vehicular and pedestrian safety, (2) the recognition of those drivers and operators who attain and maintain the highest standard of safety, (3) the creation of lower insurance rates through improved traffic accident exposures, (4) the development of an active interest and participation in safety among the employees, and (5) the conservation of equipment.

Awards are made to drivers or operators for each year of accident-free driving. If a driver or operator has a preventable accident, (evaluated by the Safety Committee) he is penalized 1 year. After a driver or operator has completed his penalty period without additional preventable accidents, he will again begin to accumulate time towards his next award.

Training Programs: It can be said that there are two major parts of any operation - what to do and how to do it. Training deals with the "how." Some specific advantages gained from a training program are: (1) it increases efficiency, (2) it increases production capacities of both employees and company, (3) it produces pride in good workmanship, (4) it enables employees to become safety oriented, and (5) it improves morale. Training is one of the major contributors to modern, efficient, accident-free operations.

One of the safety training programs used by the Project is first-aid instruction to all field and shop personnel. In most cases, first-aid training is conducted on a monthly basis, but there are those personnel who are on shift work which prohibits such training. In these instances, the training is conducted on a 2-day basis once a year.

One of the newest props used in these training classes is "Resusci-Anne" with which we demonstrate the proper methods of mouth-to-mouth resuscitation.

Safety meetings are held in each crew for a short period each Monday morning. Safety meetings are also combined with our first-aid training once a month.

The mission of the Salt River Project is the storage and distribution to our communities of an ample supply of low-cost water. The ditches and canals which are a part of the water delivery system are essential and important to the economic welfare of everyone who lives in this area. As necessary as they are, however, they create certain hazards which cannot be overlooked. This is where the

Safety Division finds another of its most important tasks. The prevention of accidents and drownings in our canals and laterals is not a simple task, and investigation of this problem has led us to one conclusion. It is the same conclusion reached by safety experts in the fields of traffic and water safety. The only positive prevention of accidents and fatalities in our laterals and canals is through proper education of the people living in these areas. Therefore, material and training devices are presented to church and school groups, fire departments, and law enforcement agencies in an attempt to educate the public to realize and prevent the very real dangers of these facilities. Some of the training devices used in dealing with water safety are films and demonstrations on artificial respiration using Resusci-Anne (there will be a demonstration if time allows).

There are no barriers or protective devices which will help the person who ignores or fails to understand the hazards presented by the use of open irrigation facilities. Educate the public with specific information - get their attention - get their interest - then get action. Change their attitude. Show them the dangers without just saying "DON'T."

In concluding my remarks I think that you will agree when I say that the safest way is not only the humanitarian way but also the least expensive way. As Mr. Wheeler has already pointed out, in some cases you can pay for your safety program many times over through lower industrial rates.

Cooperation and understanding of the problems involved and the coordinated effort of the Safety Engineer, Design Engineer, Plant Engineer, and the Supervisor is an absolute must for the success of any operation.

So let's meet the hazards of life - teach people the truth of the dangers they face - train them in the principles of preventing accidents - and strive to develop safety consciousness in the minds of ourselves and others.

* * * * *

WHEN SOMEONE COLLAPSES

Ever wondered what you would do if a person near you in a public place collapsed?

The collapse probably would be from simple fainting, heart attack, stroke or insulin reaction -- and there's very little anyone, even a

doctor, can do on the spot, says Dr. Joseph Molner, health columnist in Chicago.

He recommends this procedure: See that the person is laid out flat on a bench, floor, or whatever is available. The head should be turned to one side, the mouth examined to be sure the tongue is not obstructing breathing.

Loosen the victim's collar. Give nothing by mouth, not even water. It can get into the lungs of a groggy or unconscious person. Make the curious stay back.

Even if the person regains consciousness, don't try to make him stand up. Keep him lying down until he can be moved properly - by stretcher.

--Brown & Root "Scoreboard."

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NATIONAL SAFETY CONGRESS - 1963

(Excerpts from reports prepared by Bureau representatives)

By Harold Wersen, Boise, Idaho

Tuesday, October 29 - 9:30 a.m. - Second Session Federal Safety Council:

The subject "Recruitment and Development of Safety Personnel" was handled by a panel with Wm. E. Tarrants, moderator, with representatives from Atomic Energy Commission, U.S. Army, U.S. Department of Agriculture, and Bureau of Labor Standards. This topic covered all phases of how to interest young people and especially college graduates in safety careers. Discussion brought out the fact that in many Government facilities there was lack of status and low grading of these positions. Conclusions were that there had been considerable improvement but it would need more support by first getting qualified people with basic background of education and then supervised training in safety within their field of activity.

Tuesday, October 28 - 2:00 p.m. - Water Safety:

John R. Fleming, Director of The Public Safety Department "pinch hit" for Richard L. Brown, Assistant Director Safety Services, American Red Cross, and made a fine presentation on "Operation Waterproof 4th Grade." This is one program that should be aggressively promoted by the Water Safety Councils we have established under our "Operation Westwide" program.

Thursday, October 31 - 1:00 p.m. - Departmental Conference:

All four Bureau representatives attended this meeting presided over by William Pope, Department Safety Engineer. Merle L. Basset, Supervisory Safety Officer, Bonneville Power Administration, opened the program with his animated figure 0. Willie Everlearn, on the subject of "Your Back at Work." This is always a fine presentation which shows the reasons for some elementary rules that can become good work habits. Following is an outline of this presentation.

ELEMENTARY RULES THAT CAN BECOME GOOD WORK HABITS

Size up the load - get help if you need it.
Do not attempt to lift more than you can lift safely.
Test-lift heavy loads before making the final lift.
Keep your back as near upright as possible when lifting.

Take the necessary time to lift.
Lift slowly - give your muscles and ligaments a chance to work together.
Lift with your leg muscles and not with your back muscles.
Keep the load in close to your body.
Have good footing - avoid slipping.
Do not twist your spine - reposition your body if necessary.
Do not use your back as a turntable - move your feet - step if necessary.
Use your whole body as a lifting unit.
Lift smoothly - do not jerk.
Take the necessary time to move.
Do not overreach - work within your reach.
Avoid overpushing and overpulling.
Avoid stumbling - walk smoothly - keep good balance.

By following these and other good work habits you may help prevent injuring YOUR BACK AT WORK.

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By Robert Cary, Salt Lake City, Utah

Tuesday, October 29 - 9:30 a.m. - Traffic Courts Group Session:

This session was sponsored by the American Bar Association for the purpose of discussing the importance of integrated and uniform traffic courts as a preventive factor in highway accidents. Although much of the valuable information brought out in this session may not be specifically applicable to Bureau operations, since each year a number of Bureau employees lose their lives in off-the-job traffic accidents, it may be that some of it will prove useful in the overall Bureau motor vehicle accident prevention program. Three municipal judges, one traffic judge, and the Commissioner of the New York State Motor Vehicle License Commission participated in this panel.

30,000,000 Americans were cited to appear in traffic court during the past year; 7,500,000 faced a judge. This means that many Americans felt the direct impact of our system of justice within the setting of the traffic court.

For many Americans, the experience of going to traffic court produces negative reaction. Surveys show that many of our traffic courts fail to meet minimum standards of effective judicial administration. Throughout America today there are communities where judges have little knowledge of the traffic laws and far less knowledge of traffic engineering and education; court rooms are a disgrace in terms of order and dignity, and even simple cleanliness;

and court practices and procedures fail completely to encourage observation of the traffic laws.

The problem is simply this: the volume of traffic and traffic violations has swept like an avalanche over the structure of our courts. Courts are proverbially resistant to change. By nature they cling to tradition and precedence. In the face of this inertia within our legal institutions, motor vehicles by the millions have moved onto America's highways within the last 50 years. These automobiles, trucks and buses have required a whole new body of law designed to preserve life and maintain order on our highways. At the same time, violations of these laws have increased the case load imposed on our courts to gigantic proportions. Thus we have a widening gap between facilities of traffic courts and enforcement needs created by millions of cars on the highways. And, outside the traffic court, citizens have failed to recognize the problem. In far too many communities no steps have been taken to modernize the traffic courts. Disinterested and uninformed citizens have continued to vote inadequate funds. And these, in turn, have continued to produce inadequate facilities and staffs.

The traffic court is an important key to good citizenship because it is in the traffic court that the majority of our citizens see and hear justice in action. Good, honest and efficient traffic courts are essential if respect for the courts, the laws, and our system of justice is to be maintained. Experience in the traffic court can make or break the individual citizen's respect for the laws that govern his conduct behind the wheel and his conduct towards his fellow man. A well-administered court serves as a preventive of traffic accidents. The driver who leaves the court with respect is less likely to take chances with the law and become a chronic violator or an accident repeater. Consequently, the traffic court is an important key to traffic safety.

The general public attitude toward traffic - law enforcement has a pronounced effect on the overall scope and success of that enforcement. In reshaping this attitude, where the need for reshaping is indicated by a prevailing poor opinion of enforcement means and aims, the work of the traffic court is vital, and additionally, public support is needed. A prerequisite of public support is public recognition: (1) that improvement in traffic courts does improve enforcement generally; (2) that traffic courts <u>can</u> be improved; and (3) that citizen support <u>is</u> needed.

In the end, a significant body of citizens must be so strongly in favor of better traffic courts that they generate active support from the executive and legislative branches. It is even more beneficial

if at least some of this support originates at the executive and legislative level -- from the governors, mayors, county chairmen, state legislators, county commissioners and supervisors, city councilmen and commissioners, and village and town officials. These people, after all, are citizens too. Either initially or as the result of the activities of other citizens, they must realize the basic importance of traffic courts to traffic safety and recognize the problems facing traffic court judges and prosecutors.

One approach that has proved successful in winning laymen to a better understanding of court problems is the "Go to Traffic Court as a Visitor -- Not as a Violator" program. Once the interested laymen have seen the court machinery in action, the judge can outline his problems and asks for constructive suggestions. If these are forthcoming, the court will be well repaid. But even if no solutions are suggested, there is ample reward in the almost certain "conversion" of additional laymen, who come to realize that courts do face serious problems requiring strenuous efforts to overcome.

Wednesday, October 30 - 2:00 p.m. - Commercial Vehicle Section--Human Preventive Maintenance in the Fleet:

Dr. White from Northwestern University spoke on the fallacy of relying on health foods, health food supplements, and vitamins to build vigorous bodies and to create and maintain alertness. It was pointed up that commercial driving is basically a sedentary occupation and very frequently is accompanied by massive overweight. This overweight, which is an occupational disease of fleet truck drivers, is a basic cause of heart disease, strokes and diabetes. It was emphasized that probably the greatest factor in human preventive maintenance among fleet drivers was the control of obesity, since records and statistics presented showed that obesity was the primary hazard for fleet drivers. To combat this obesity among drivers, it was suggested that exercise was a necessity, that a limited amount of food in good variety to supply adequate nutrition should be recommended for all drivers. The idea was promulgated that the best way to eat for those who have a sedentary occupation is series of small meals throughout the day. These meals should be well balanced because good nutrition and physical fitness go hand in hand--we can not have one without the other. The advantages of good health for drivers as well as for all of us is alertness, energy, and lack of fatigue. A booklet titled, "Seven Paths to Fitness," published by the American Medical Association was recommended to supervisors of drivers.

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By Dan Winans, Denver, Colorado

Monday, October 28 - Mining Section:

Mr. Frank Zimmerman described the safety program at the Belfonte mine and plant of National Gypsum Co. The program was dubbed the "Today" program and since its use the organization has won awards for safety achievement. The emphasis in the program was put on action today. The theme was, "Today is the day that counts."

In action they put in practice a policy of acting "today" on safety suggestions presented "today." They used the usual weekly safety meetings, monthly safety meetings, posters, etc., to promote safe practices and to emphasize action "today." Supervisors were required to make and record daily safety contacts, and conduct the weekly meetings, but were not expected to put on the hour-long monthly meetings.

One incident in their program illustrated how safety on the job carries over to leisure hours. They had bumper stickers reading Today printed and attached to employees' vehicles. Townspeople and families wondered what the sign meant. In explaining the individual became more conscious of the program. The Company now has more requests from community organizations for speakers to describe the Today Program than they can handle.

Tuesday, October 29 - Federal Safety Council, Second Session:

One of the main points made by the panel on "Recruitment and Development of Safety Personnel" was that there are not enough engineering graduates entering safety. None of the agencies represented have had much success in getting the number of technically trained people they want in safety positions.

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By Howard Latham, Denver, Colorado

Monday, October 28 - Construction Section:

In discussing fire hazards in high rise buildings and prevention methods, it was pointed out that uncontrolled use of butane and propane constituted one of the greatest hazards. Installations in accordance with F. P. A. codes, constant inspection and adequate fire protection is essential to control this hazard.

Mr. Dale Marr showed a series of slides picturing recent tower crane failures. According to Mr. Marr, these failures were usually due to the failure of the foreign manufacturers to follow

accepted design criteria providing for adequate factors of safety. The failures usually occurred in the structural-steel tower assembly and were often influenced by inadequate guying and unsatisfactory swing and hoist controls. He also pointed out that many cranes in use did not provide a proper position for the operator, permitting all around vision and the "feel" of the crane. Some tower cranes have no provision for safe access to moving parts which require frequent inspection and lubrication.

Wednesday, October 30 - Federal Safety Council:

A. W. Motley, Chairman of the Federal Safety Council, reviewed the Federal safety record, indicating that progress had been made toward reducing accidents in the Federal Government. He suggested the Council place greater emphasis on providing technical information to the various Governmental agencies. He stressed the need to provide safety indoctrination and training for new employees.

According to Mr. Motley, 20 percent of all fatalities in the Federal Government resulted from vehicle accidents.

Wednesday, October 30 - Construction Section:

Mr. Jack Barnes, C. D. Barnes Associates, discussed accident costs and their effect on a construction organization. He pointed out that in the present era of highly competitive bidding and low profit margins, savings from an effective safety effort could often be the margin between getting or losing a contract. He stated that it was time for all contractors to aggressively assume full responsibility for the safety of their employees: that this responsibility did not belong to organized labor, State, or Federal Governments, insurance companies or others.

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AGC SAFETY CERTIFICATION PROGRAM MOVES FORWARD

The AGC Safety Certification program, which was approved by the national convention last March, is moving ahead rapidly. Many firms have already qualified for the certificates and other applications are being processed.

In August, Johnson, Drake & Piper became the first AGC firm to receive the certificate in both states of Minnesota and New York. The company's Building Division won the certificate in Minnesota and the Highway Division won the certificate in New York state.

The building division logged 770,087 man-hours of work in five states during the 12-month period ending June 30, 1962, with only eight lost-time accidents. The division showed an accident frequency of 10.4 for this period. The highway division had 1,196,873 man-hours of exposure in the same period with only 10 lost-time accidents, reflecting an accident frequency of 8.36.

Charles W. Borden, Jr., is director of safety engineering for the firm and administers the program under direction of John B. Drake, vice president. Every job has an appointed safety supervisor who is the job engineer. He assists the superintendent or project manager in the jobsite safety program. The company has also prepared a safety manual and posts safety rules on all jobsites.

The Daniel Construction Co., which is engaged on the Pensacola, Florida, Chemstrand project also received safety certification at a recent ceremony in Pensacola. The company has now completed about 1,500,000 man-hours without a single lost-time accident. The last such accident occurred in June 1961.

The safety certification program was drafted by the National AGC Safety Committee and put into operation last spring. Each member seeking certification must qualify by submitting evidence that his firm has met the safety criteria established. Fundamental purpose of the program is to give contractors and their employees a greater consciousness of the importance of safety in construction and to give recognition to those contractors who are following good safety practices.

The J. A. Jones Construction Co. of Charlotte, N. C., was the first AGC member to qualify for the new safety certification receiving the certificate in May.

Peter Kiewit Sons Co., Denver, highway and heavy engineering contracting company, received the first safety certification in Colorado. Merle C. Jacobs, president of the Colorado Contractors Association,

presented the award to Fred B. Settle, Jr., district manager for the company, at a brief ceremony.

--The Constructor, November 1963

CONSTRUCTION SAFETY RELEASE
NATIONAL SAFETY COUNCIL

PREVENTING ACCIDENTS CAUSED BY FALLING OBJECTS

In building construction, 26.7 percent of the accidents that occur are the "struck by objects" type. Falling ladders, materials and tools account for 11 percent of this type of accident.

The hundred of times that ladders, and other objects, fall without causing injury to workmen is perhaps more costly accumulatively than the small number that cause injury.

In general, the likelihood that ladders, materials, or tools may fall is visually apparent when they are placed. Ladders balanced on one leg or set too closely to the supporting wall are likely to fall; poorly stacked materials and the overloading of scaffolds with materials are both conditions easily detected. Tools balanced on rafters, plates, or scaffolds are readily apparent. Consequently, the following are basic rules that should be adopted and followed on an "in spite of hell and highwater" basis:

1. Place all ladders, when in use, on a solid footing and at an angle of 1 foot increase horizontally for each 4 feet of height.

2. When not in use, place all ladders horizontally on the ground or floor.

3. Stack all materials on a firm foundation and arrange so that the top of the stack is narrower than the base.

4. Place only a reasonable amount of materials on scaffold.

5. Remove all tools from platforms, scaffolds or overhead structural members.

6. Be sufficiently strong and determined to take the time to always do that which is apparent and obviously should be done to prevent the fall of ladders, materials, and tools.

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH November 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	244	37,088	452,424							0.0	0.0		0	0
Denver Office	1,459	221,768	2,690,640		3			16		1.1	0.8		6	19
Alaska District	38	5,217	64,531		1			1		15.5	17.1		15	120
REGION 1														
Boise Regional Office	171	22,067	283,193							0.0	0.0		0	0
Central Snake Projects	50	5,904	76,457	1	2		3	13	169.4	26.1	11.8	508	170	12
Chief Joseph Dam Project	30	5,103	69,714							0.0	0.0		0	0
Coeur d'Alene Project	21	3,096	31,683							0.0	0.0		0	0
Columbia Basin Project	823	138,264	1,621,320		4	1		6,016		2.5	8.5		3,710	117
Hungry Horse Project	54	9,358	101,200		1			6		9.9	19.5		59	597
Lower Columbia Development	47	6,205	67,576		3			25		44.4	0.0		370	0
Minidoka Project	132	23,083	254,727		2			21		7.8	11.8		82	43
Rogue Project	2	336	6,586							0.0	0.0		0	0
Snake River Development	46	7,136	81,190		1			3		12.3	12.1		37	7,235
The Dalles Project	30	7,224	65,628							0.0	0.0		0	0
Upper Columbia Development	40	5,226	69,593		2			10		28.7	0.0		144	0
Vale Project	19	3,651	36,129							0.0	0.0		0	0
Yakima Project	28	4,181	48,922		1			4		20.4	20.3		82	61
Totals and Averages	1,493	240,834	2,813,924	1	16	1	3	6,098	4.1	5.7	7.8	12	2,167	307
REGION 2														
Sacramento Regional Office	607	92,264	1,119,792		6			259		5.4	7.0		231	68
Folsom Field Division	60	9,726	115,250							0.0	0.0		0	0
Fresno Field Division	160	23,040	278,723		1			98		3.6	17.7		351	226
Shasta Field Division	122	19,585	220,253		3			82		13.6	4.6		368	479
Tracy Field Division	182	27,130	343,514		2			95		5.8	8.7		277	252
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	25	3,800	56,077		1			5		17.8	0.0		89	0
Lahontan Basin Project	28	4,256	49,896							0.0	0.0		0	0
Red Bluff Office	99	15,048	205,512		1	1		6,000		4.9	6.1		29,193	79
San Luis Unit	498	89,264	815,016		8			128		9.8	0.0		157	0
Trinity River Division	121	17,424	322,148		3			38		9.3	5.8		118	11,556
Willows Field Office	39	5,928	44,464							0.0	0.0		0	0
Totals and Averages	1,941	307,465	3,593,677		25	1		6,705		7.0	6.0		1,866	1,816
REGION 3														
Boulder Regional Office	137	21,920	256,480		1			2		3.9	0.0		8	0
Boulder City Development	12	1,824	22,592							0.0	--		0	--
Boulder Canyon Project	147	24,696	291,150		2			53		6.9	9.9		182	295
Colorado River FW&LS	87	13,826	141,717	1	1		12	20	72.3	21.2	21.8	868	141	399
Parker-Davis Project	311	50,752	536,571	2			16	38	39.4	7.5	11.3	315	71	137
Phoenix Development	130	20,800	196,734		3			221		15.2	9.1		1,123	9
Southern California Development	31	5,056	34,777							0.0	0.0		0	0
Yuma Projects	222	32,747	320,807	1	2		2	52	30.5	6.2	11.9	61	162	24
Totals and Averages	1,077	171,621	1,800,828		15		30	386	23.3	8.3	10.1	175	214	142
REGION 4														
Salt Lake Regional Office	[illegible]	[illegible]	[illegible]							0.0	3.1		0	[illegible]
Emery County Project	43	7,272	76,160							0.0	0.0		0	0
Central Utah Projects	146	23,115	255,574		1			20		3.9	10.4		78	808
Curecanti Unit	98	15,897	172,516							0.0	14.2		0	42,612
Flaming Gorge Unit	117	29,897	244,431		1			20		4.1	3.6		82	980
Glen Canyon Unit	304	50,672	653,106		1			14		1.5	4.6		21	1,209
Navajo Unit			8,603							0.0	8.8		0	88
Power Operations Office	36	7,096	25,022							0.0	--		0	--
Transmission System Office	74	11,248	143,086		1			12		7.0	6.4		84	19
Durango Projects	65	9,728	149,816		1			32		6.7	11.4		214	68
Grand Junction Projects	88	13,848	169,362		3			15		17.7	8.1		89	321
Logan Development	13	2,184	26,062							0.0	0.0		0	0
Seedskadee Project	61	10,430	138,420							0.0	6.5		0	293
Upper Green River Project	17	2,720	33,040							0.0	0.0		0	0
Weber Basin Projects	209	30,820	400,478		1			11		2.5	0.0		27	0
Totals and Averages	1,572	285,539	3,112,741		9			124		2.9	5.4		40	2,281
REGION 5														
Amarillo Regional Office	110	17,600	214,802							0.0	0.0		0	0
Albuquerque Development	37	5,880	69,125							0.0	0.0		0	0
Austin Development	61	8,828	119,075							0.0	0.0		0	0
Canadian River Project	149	25,302	294,999							0.0	0.0		0	0
Lower Rio Grande Rehabilitation	32	5,472	85,944							0.0	0.0		0	0
Middle Rio Grande Project	235	36,814	445,333		7			45		15.7	8.5		101	77
Navajo Indian Irrigation Project	65	10,400	92,928		1			2		10.8	--		22	--
Norman Project	77	12,541	147,869							0.0	0.0		0	0
Oklahoma City Development	29	3,842	49,233							0.0	0.0		0	0
Rio Grande Project	256	38,520	512,956		3			48		5.8	9.1		94	49
San Angelo Project	7	1,104	42,678							0.0	12.0		0	595
San Juan-Chama Project	67	10,831	82,098		1			5		12.2	--		61	--
Wichita Project	51	9,150	121,990							0.0	11.3		0	11
Totals and Averages	1,176	186,284	2,279,028		12			100		5.3	5.5		44	75
REGION 6														
Billings Regional Office	244	38,641	429,430							0.0	2.5		0	2
Canyon Ferry Project	19	2,626	33,455		1			18		29.9	0.0		538	0
East Bench Project	64	8,403	122,015							0.0	0.0		0	0
Fort Peck Project	36	6,968	62,406		1			11		16.0	17.1		176	291
Missouri-Oahe Projects	267	42,720	479,437		5	1		6,130		10.4	8.2		12,786	535
Missouri-Souris Projects	117	15,455	215,289		2			12		9.3	3.9		56	23
Power System Operations	41	6,560	77,040							0.0	0.0		0	0
Riverton Project	30	3,807	52,859		2			162		37.8	19.0		3,065	797
Upper Missouri Projects	68	9,630	144,235							0.0	22.0		0	193
Yellowtail Project	133	20,812	226,171							0.0	10.0		0	121
Totals and Averages	1,019	155,622	1,842,341		11	1		6,333		6.0	7.4		3,437	205
(Continued next page)														
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

*FATALITIES INCLUDED IN TOTAL DISABLING

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(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH November 30, 19 63

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	174	25,056	321,472							0.0	0.0		0	0
Denver Development	36	5,184	56,664							0.0	0.0		0	0
Fryingpan-Arkansas Project	100	14,240	149,619		2			404		13.4	0.0		2,700	0
Kansas River Projects	301	43,424	603,224							0.0	1.6		0	13
Niagara-Lower Platte Projects	254	40,640	512,160		1			6		2.0	0.0		12	0
North Platte River Projects	333	80,240	606,641					10		0.0	0.0		16	0
South Platte River Projects	168	26,880	305,544		2			12		6.5	12.3		39	142
Totals and Averages	1,366	235,664	2,555,324		5			432		2.0	2.0		169	22
CONSOLIDATED TOTALS	11,385	1,847,102	21,205,458	5	97	3	33	20,195	2.7	4.6	5.3	18	952	751
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING

DFC-31
(7-61)

DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 19 63 THROUGH November 30, 19 63

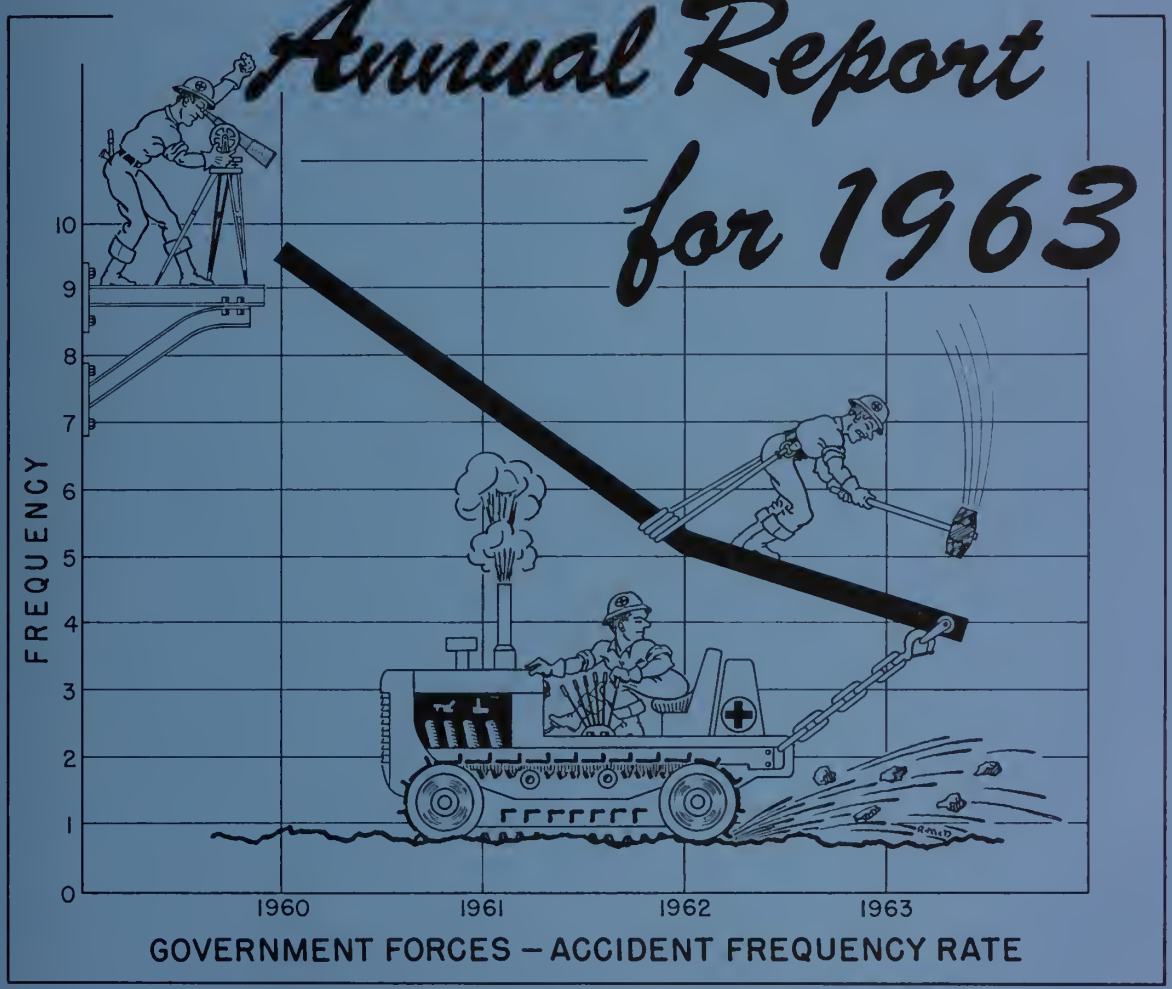
REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	19	1,928	22,465							0.0	11.8		0	47
Columbia Basin Project	164	13,177	182,011							0.0	4.8		0	14
Coeur d'Alene Project	4	354	35,458							0.0	0.0		0	0
Hungry Horse Project	26	1,824	10,974		1			9		91.1	0.0		820	0
Minidoke Project	16	1,588	4,175							0.0	0.0		0	0
Rogue Project			8,437							0.0	0.0		0	0
Snake River Development			24							0.0	--		0	--
The Dalles Project	18	1,968	63,569							0.0	0.0		0	0
Vale Project	31	4,420	66,282							0.0	33.5		0	50,512
Yakima Project	47	6,464	21,914							0.0	0.0		0	0
Totals and Averages	325	31,723	415,309		1			9		2.4	12.4		22	12,542
REGION 2														
Distribution System Projects			18,390		2			15		108.8	48.0		816	1,161
El Dorado Distribution			11,399							0.0	49.7		0	505
Fresno Field Division			8,711		2	1		6,021		229.5	0.0		691,195	0
Klamath Project	4	112	1,702							0.0	0.0		0	0
Red Bluff Office	199	39,607	328,895		1			21		3.0	16.1		64	600
San Luis Unit	1,264	193,450	1,273,768	4	22	2	6,139	12,496	20.7	17.3	0.0	31,734	9,810	0
Tracy Field Division			7,975							0.0	0.0		0	0
Trinity River Division	67	8,730	379,260		13			6,155		34.3	42.1		16,225	4,897
Totals and Averages	1,534	241,899	2,030,100	4	40	3	6,139	24,708	16.5	19.7	38.1	25,378	12,170	3,511
REGION 3														
Colorado River FW&LS			21,270							0.0	0.0		0	0
Parker-Davis Project	303	41,308	162,087		2			95		12.3	99.7		586	2,841
Phoenix Development	15	1,100	7,600							0.0	0.0		0	0
Yuma Projects	109	20,873	60,671		3			660		49.4	14.2		10,878	370
Totals and Averages	427	63,281	251,628		5			755		19.9	18.1		3,000	500
REGION 4														
Central Utah Projects	17	2,722	11,693		1			100		85.5	49.8		8,552	1,506
Curecanti Unit	383	71,475	702,119	1	18	1	7	6,289	14.0	25.6	15.1	98	8,957	651
Flaming Gorge Unit	600	136,028	1,057,318		22	2		12,594		20.8	7.5		12,290	4,081
Glen Canyon Unit	1,522	232,177	3,020,234	6	46	2	173	13,566	25.8	15.2	21.2	745	4,492	2,846
Navajo Unit			32,081							0.0	15.2		0	404
Emery County Project	160	30,700	127,007		3			107		23.6	0.0		842	0
Florida Division	69	11,223	301,476		5	1		6,135		16.6	26.6		20,350	568
Grand Junction Projects		800	12,092							0.0	19.0		0	308
Seedskadee Project	204	36,797	590,812	1	5	2	18	12,134	27.2	8.5	6.3	489	20,538	151
Weber Basin Projects	378	51,889	643,444		13			93		20.2	31.2		143	13,833
Totals and Averages	3,338	573,811	6,498,274	8	113	8	198	51,418	13.9	17.4	17.5	345	7,913	3,075
REGION 5														
Amarillo Regional Office			8,177							0.0	0.0		0	0
Albuquerque Development	3	380	381							0.0	--		0	--
Austin Development			1,223							0.0	--		0	
Canadian River Project	524	136,656	982,016	2	11		24	15	14.6	11.2	20.8	176	117	391
Lower Rio Grande Rehabilitation	219	29,579	208,831		5		13	15	33.8	23.8	26.7	440	72	391
Norman Project	220	33,621	247,836		5			94		8.1	79.3		379	833
Oklahoma City Development			2,471							0.0	--		0	--
Rio Grande Project			7,553							0.0	0.0		0	0
San Angelo Project			50,889							0.0	24.9		0	19,169
San Juan-Chama Project	57	11,078	25,874							0.0	--		0	--
Wichita Project	124	26,816	321,230		2			327		6.2	0.0		1,018	0
Totals and Averages	1,147	238,130	1,856,480	3	17		37	551	12.6	9.2	24.3	155	297	9,781
REGION 6														
East Bench Project	232	29,514	376,417	2	15		150	446	67.8	39.8	46.6	5,082	1,185	981
Missouri-Oahe Projects	300	39,564	227,185		12		27	171	75.8	52.8	20.6	682	753	15,547
Missouri-Souris Projects	75	8,173	155,175		3			77		19.3	35.7		496	1,441
Riverton Project	14	2,406	14,615							0.0	39.1		0	508
Upper Missouri Projects	8	598	11,789		1			3		84.8	0.0		255	0
Yellowtail Project	782	127,548	1,146,634	1	6	4	60	24,116	7.8	5.2	9.3	470	21,032	311
Totals and Averages	1,411	207,803	1,931,813	6	37	4	237	24,813	28.9	19.2	21.0	1,141	12,844	3,969
REGION 7														
Fryingpan-Arkansas Project	6	1,265	4,744							0.0	--		0	--
Kansas River Projects	346	76,907	618,044	1	3		2	217	13.0	4.9	10.7	26	351	3,852
Niobrara-Lower Platte Projects	465	81,677	836,735	2	12		78	229	24.5	14.3	17.4	955	274	6,731
North Platte River Projects	172	37,045	104,009					108		28.8	54.2		1,038	651
South Platte River Projects	8	400	5,463							0.0	0.0		0	0
Totals and Averages	997	197,294	1,568,997		18		80	554	15.2	11.5	15.3	405	353	5,539
CONSOLIDATED TOTALS	9,179	1,553,941	14,552,603	24	231	15	6,691	102,808	15.4	15.9	21.4	4,306	7,065	4,595
TOTALS LAST YEAR (1962)	8,141		16,509,276		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING

GPO 838-818

SAFETY RECORD

Annual Report for 1963



GOVERNMENT FORCES – ACCIDENT FREQUENCY RATE

FEB 21

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OFFICE OF CHIEF ENGINEER

December 1963

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SAFETY RECORD is published monthly by the Office of Chief Engineer, Bureau of Reclamation, Denver, Colorado, in the interest of accident prevention.

BUREAU SAFETY PERFORMANCE

1963 CUMULATIVE SAFETY RECORD
CY 1963

A. GOVERNMENT FORCES:

Region	Frequency rate	Severity rate	Injury index*	Vehicle accident rate
Region 7	1.8	156	2.8	2.7
Region 4	2.6	100	2.6	2.6
Region 6	5.5	3,160	173.8	2.2
Region 5	5.6	54	3.0	4.3
Region 1	5.9	2,003	118.2	2.6
Region 2	7.1	1,724	122.4	5.3
Region 3	7.9	197	15.6	3.8
Alaska District	14.3	14	2.0	0.0
Totals to Date	4.5	887	39.9	3.4
Totals Last Year	5.2	1,238	64.4	3.4

*Injury index is equal to frequency rate times severity rate divided by 100.

B. CONTRACTOR FORCES:

Region	Frequency rate	Severity rate	Fatal injuries
Region 1	2.3	21	0
Region 5	9.4	340	0
Region 7	12.4	369	0
Region 4	16.9	7,399	8
Region 2	18.7	10,687	3
Region 6	19.1	12,173	4
Region 3	24.1	2,058	0
Totals to Date	15.8	6,525	15
Totals Last Year	21.4	4,652	9

C. BUREAU CONTRACTORS--3-year Average--(1961-1963):

Frequency rate	20.4
Severity rate	5,684.0

WORK INJURIES

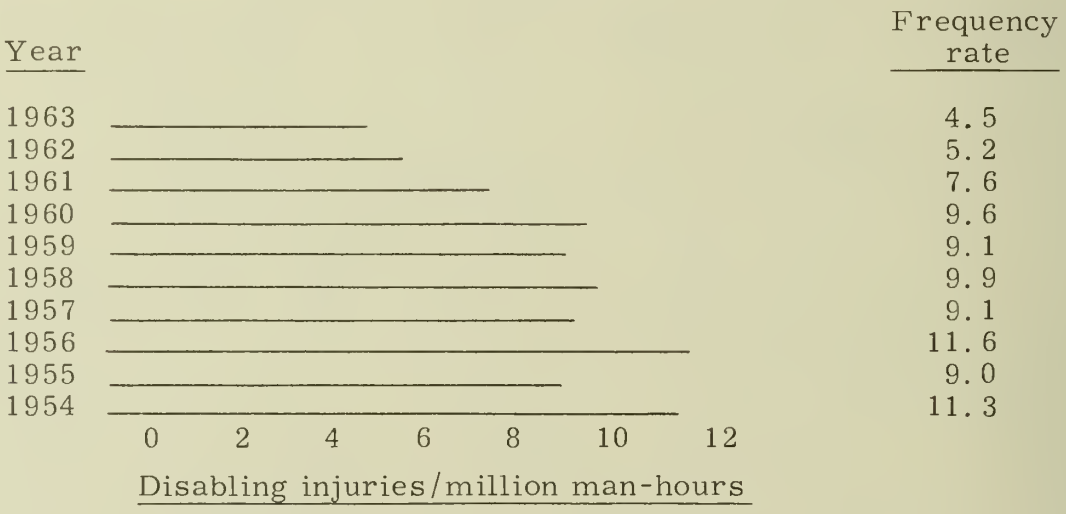
GOVERNMENT FORCES - 1963

Continued Improvement

Supervisors and employees of the Bureau of Reclamation are to be congratulated for the commendable improvement made in the Bureau's work injury experience during 1963. For the third consecutive year, Reclamation has achieved the lowest accident frequency rate--number of disabling injuries per million man-hours worked--in its 61-year history.

While a reduction was made in the accident severity rate--number of days lost per million man-hours worked--as compared with 1962, it does not meet our high standard of achievement. An otherwise exemplary safety record was marred by the fact that four Reclamation employees lost their lives in carrying out their assigned duties. While one fatal injury resulted from an incident classified as an "Act of God," it is significant that the other three lost their lives in either an automobile or airplane accident.

The following chart indicates the progress made in the reduction of disabling injuries to Government employees over the past 10 years.



Work Activity

The following table lists the accident experience of all Government forces by major work classifications:

Type of work	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Administration	5, 624, 929	4	21	0.7	4
Construction	5, 836, 095	26	6, 608	4.4	1, 132
Design	2, 443, 106	2	11	0.8	4
Investigation	2, 928, 656	25	962	8.5	328
Irrigation	2, 824, 391	24	651	8.5	230
Power	3, 509, 530	24	12, 307	6.8	3, 507
Totals and averages	23, 166, 707	105	20, 560	4.5	887

Organizational Unit

The following table shows the accident experience of each major organizational unit of Reclamation during 1963:

Major activity	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Alaska District					
Investigation	34, 052	0	0	0.0	0
Power	35, 833	1	1	27.9	28
Totals and averages	69, 885	1	1	14.3	14
Denver Office					
Administration, Design, etc.	2, 938, 272	3	16	1.0	5
Washington Office					
Administration	493, 080	0	0	0.0	0

Major activity	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Region 1					
Administration	539,322	0	0	0.0	0
Construction	494,376	0	0	0.0	0
Investigation	356,777	6	38	16.8	106
Irrigation	760,233	3	27	3.9	35
Power	909,464	9	6,066	9.9	6,670
Totals and averages	3,060,172	18	6,131	5.9	2,003
Region 2					
Administration	809,641	1	10	1.2	12
Construction	1,188,171	15	6,231	12.6	5,244
Design	228,368	0	0	0.0	0
Investigation	450,008	6	257	13.3	571
Irrigation	703,075	4	195	5.5	277
Power	550,258	2	82	3.6	149
Totals and averages	3,929,521	28	6,775	7.1	1,724
Region 3					
Administration	435,508	1	2	2.3	5
Construction	335,966	3	20	8.9	59
Design	62,169	0	0	0.0	0
Investigation	273,837	3	221	10.9	807
Irrigation	154,133	2	52	13.0	337
Power	759,175	7	104	9.2	137
Totals and averages	2,020,788	16	399	7.9	197
Region 4					
Administration	975,913	0	0	0.0	0
Construction	1,614,287	5	313	3.1	194
Design	160,325	1	4	6.2	25
Investigation	514,072	3	23	5.8	45
Irrigation	74,188	0	0	0.0	0
Power	60,303	0	0	0.0	0
Totals and averages	3,399,088	9	340	2.6	100

Major activity	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Region 5					
Administration	688,732	0	0	0.0	0
Construction	595,392	0	0	0.0	0
Investigation	270,618	3	10	11.1	37
Irrigation	826,040	11	123	13.3	149
Power	98,008	0	0	0.0	0
Totals and averages	2,478,790	14	133	5.6	54
Region 6					
Administration	640,014	0	0	0.0	0
Construction	557,311	3	44	5.4	79
Investigation	333,854	1	3	3.0	9
Irrigation	149,807	3	251	20.0	1,675
Power	323,385	4	6,035	12.4	18,662
Totals and averages	2,004,371	11	6,333	5.5	3,160
Region 7					
Administration	648,267	0	0	0.0	0
Construction	579,604	0	0	0.0	0
Design	126,044	0	0	0.0	0
Investigation	591,566	3	410	5.1	693
Irrigation	138,019	1	3	7.2	22
Power	689,240	1	19	1.4	27
Totals and averages	2,772,740	5	432	1.8	156
Consolidated totals	23,166,707	105	20,560	4.5	887

Analysis of Disabling Injuries

The following table classifies the 105 disabling injuries suffered during 1963 by operation, occupation, cause, and other classification criteria pertinent to the analysis of injury experience:

OPERATION	No. of injuries
Administration	4
Construction	26
Design	2
Investigation	25
O&M Irrigation	24
O&M Power	24
Total	105

OCCUPATION	
Administration, Office and Clerical	3
Field Engineering and Surveys	22
Construction Inspectors	6
Carpenters	1
Laborers	25
Electricians and Linemen	11
Mechanics	8
Ditchriders	5
Powerplant Operators	2
Other	22
Total	105

AGE GROUP	
18 - 25 years	15
26 - 40 years	46
41 - 60 years	41
Over 60 years	3
Total	105

LENGTH OF EMPLOYMENT	No. of injuries
Temporary status	2
Permanent status	
Less than 1 month	2
1 month to 11 months	14
1 year to 5 years	39
Over 5 years	48
Total	105

CAUSE OF ACCIDENT

Mechanical or physical	
Layout or procedure	31
Work area	19
Tools and equipment	5
Other	10
Personal cause	
Unsafe act	84
Physical defect	2
Lack of knowledge or skill	2
Other	1

ACCIDENT CLASSIFICATION

Type		No. of Accidents	Days lost
2	Aircraft	1	6,000
5	Vehicles	10	12,347
7	Explosions	2	14
9	Electricity	3	27
12	Handling Material	26	871
13	Falling Objects	5	36
14	Falls of Persons	17	377
15	Jumping to or from Places	2	5
16	Striking Against	4	16
17	Flying Particles	3	37
18	Handtools	9	287
19	Machinery	3	138
20	Not otherwise classified	20	405
	Total	105	20,560

TIME EXTENT OF INJURY

	No. of injuries	Days lost
Temporary total disability	101	2,160
Permanent partial disability	1	400
Fatals	3	18,000
Total	105	20,560
Three days or less	24	59
Over three days	81	20,501
Total	105	20,560

SERIOUS OR FATAL INJURIES
(Fixed Time Charge)

Date	Occupation	Description	Days lost
2-18-63	Laborer	Drill drive hammer struck hand	400
4-30-63	Technician	Motor vehicle accident (fatal)	6,000
7-22-63	Lineman	Airplane crash (fatal)	6,000
9-12-63	Guard	Vehicle accident (drowning)	6,000

* * * * *

WORK INJURIES

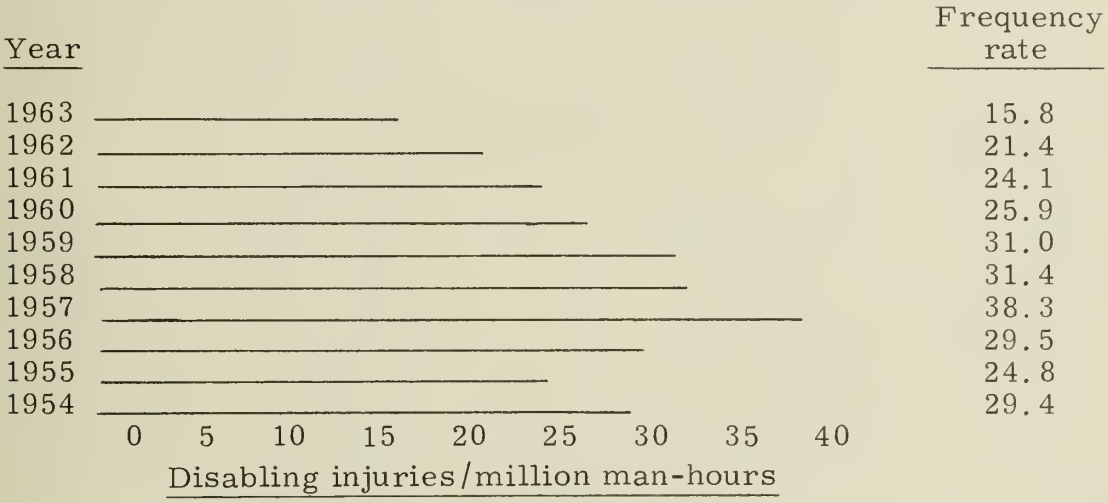
CONTRACTOR FORCES - 1963

Achievement and Resolve

For the third consecutive year, the Bureau contractor accident frequency rate was reduced. The current accident frequency rate of 15.8 is the lowest in the 61-year history of Reclamation and represents a 26 percent reduction as compared with 1962.

However, the overall contractor accident severity rate of 6,525 days lost per million man-hours worked continues to be less than adequate. The high incidence of fatal accidents suffered by contractor employees is conspicuously poor, and its improvement should be the primary objective of all those engaged in contract administration.

The following chart indicates the progress made in the reduction of disabling injuries to contractor employees over the past 10 years:



Work Activity

The following table summarizes the accident experience of all Bureau contractor forces by major construction activity:

Type of work	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Canals	2,531,212	41	7,342	16.2	2,900
Concrete Dams	4,335,304	65	50,331	15.0	11,609
Earth Dams	5,685,521	83	38,411	14.6	6,756
Tunnels	144,134	7	113	48.6	784
Transmission Lines and Substations	2,439,056	44	7,202	18.0	2,953
Miscellaneous	738,103	11	180	14.9	244
Totals and averages	15,873,330	251	103,579	15.8	6,525

Organizational Unit

The following table shows the 1963 contractor accident experience by regions:

Major activity	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Region 1					
Canals	190,670	0	0	0.0	0
Earth Dams	56,142	0	0	0.0	0
Transmission Lines and Substations	3,395	0	0	0.0	0
Tunnels	66,596	0	0	0.0	0
Miscellaneous	117,441	1	9	8.5	77
Totals and averages	434,244	1	9	2.3	21
Region 2					
Canals	275,685	6	6,240	21.8	22,634
Concrete Dams	185,572	1	90	5.4	485
Earth Dams	1,371,560	24	18,579	17.5	13,546
Transmission Lines and Substations	197,958	1	21	5.0	106
Tunnels	77,538	7	113	90.3	1,457
Miscellaneous	238,171	5	35	21.0	147
Totals and averages	2,346,484	44	25,078	18.7	10,687
Region 3					
Canals	92,683	4	614	43.1	6,625
Earth Dams	69	0	0	0.0	0
Transmission Lines and Substations	224,635	3	96	13.3	427
Miscellaneous	56,737	2	60	35.2	1,057
Totals and averages	374,124	9	770	24.1	2,058

Major activity	Man-hour exposure	Disabling injuries	Days lost	Frequency rate	Severity rate
Region 4					
Canals	355,664	6	55	16.9	155
Concrete Dams	2,936,964	57	26,035	19.4	8,864
Earth Dams	2,018,003	29	18,594	14.4	9,214
Transmission Lines and Substations	1,560,748	24	6,806	15.4	4,361
Miscellaneous	89,867	2	16	22.2	178
Totals and averages	6,961,246	118	51,506	16.9	7,399
Region 5					
Canals	384,132	5	60	13.0	156
Earth Dams	1,583,645	14	628	8.8	397
Miscellaneous	53,945	0	0	0.0	0
Totals and averages	2,021,722	19	688	9.4	340
Region 6					
Canals	235,281	6	118	25.5	502
Concrete Dams	1,212,768	7	24,206	5.8	19,952
Earth Dams	187,897	12	349	63.9	1,857
Transmission Lines and Substations	377,612	13	171	34.4	453
Miscellaneous	32,358	1	60	30.9	1,854
Totals and averages	2,045,916	39	24,904	19.1	12,173
Region 7					
Canals	997,097	14	255	14.0	256
Earth Dams	468,205	4	261	8.5	557
Transmission Lines and Substations	74,708	3	108	40.1	1,446
Miscellaneous	149,584	0	0	0.0	0
Totals and averages	1,689,594	21	624	12.4	369
Consolidated totals	15,873,330	251	103,579	15.8	6,525

* * * * *

VEHICLE ACCIDENTS

A Challenge

Several organizational units of Reclamation, notably Region 1, have consistently enjoyed a favorable vehicle accident experience as compared with industry and other Federal agencies.

However, Bureauwide, there has been no perceptible improvement in the frequency of accidents involving Reclamation vehicles during the past 6 years. Also significant is the fact that in 1963 we experienced 134 vehicle accidents--29 more vehicle accidents than disabling injuries.

The following table shows the vehicle accident experience since 1958:

Year	No. of accidents	Accident* rate	Estimated damage
1963	134	3.4	$25,130.00
1962	125	3.4	33,100.00
1961	151	4.6	41,255.00
1960	75	2.7	32,960.00
1959	93	3.3	34,940.00
1958	146	4.9	37,980.00

*Number of accidents per million miles driven.

Organizational Unit

The following table compares the vehicle accident experience of major organizational units of Reclamation for the year 1963:

Region	No. of accidents	Mileage	Accident* rate
Alaska District	0	56,488	0.0
Denver Office	1	145,796	6.8
Region 1	15	5,664,326	2.6
Region 2	43	8,080,473	5.3
Region 3	12	3,185,083	3.8
Region 4	16	6,128,798	2.6
Region 5	19	4,453,367	4.3
Region 6	12	5,340,644	2.2
Region 7	16	5,906,197	2.7
Bureau total	134	38,961,172	3.4
1962 Bureau total	125	36,933,854	3.4

*Number of accidents per million miles driven.

PUBLIC SAFETY

Twenty-four Percent Reduction in Public Drownings

The following table, indicating a marked reduction in the number of drownings on Reclamation facilities, reflects the efforts of regions and operating offices to waterproof the public:

	CY62	CY63
Bureau-operated Facilities:		
Canals	20	12
Dams	0	3
Reservoirs	5	1
Total	25	16
Facilities Operated by Others:		
Irrigation and Water Districts	23	21
State or County (Recreational)	36	27
Total	59	48
Summary of Total Drownings During Period		
By Operating Agency:		
Bureau of Reclamation	25	16
Irrigation and Water Districts	23	21
State or County (Recreational)	36	27
Total	84	64
By Type of Facility:		
Canals	38	29
Dams	0	5
Reservoirs	46	30
Total	84	64
By Activity:		
Swimming	35	17
Boating	7	5
Fishing	6	11
Fell into canal	9	13
Other	27	18
Total	84	64

Operation Westwide

In 1963, public use of Reclamation facilities for enjoyment of water sports such as boating, swimming, and fishing totaled an estimated 9,320,000 visitor days. This figure does not include the great number of people who visited our dams and hydroelectric plants. Provision for the health and safety of the public while enjoying these recreational facilities and points of interest was considered an obligation of Reclamation. Furthermore, the thousands of miles of canals and laterals taxed the ingenuity of Reclamation and Water District supervisors to provide for the safety of the public.

This challenge was effectively met by incorporating provision for public safety in the planning, design, and management of these facilities. Not overlooked was the need for an educational program enjoying the support of the surrounding or adjacent communities. This effort was furthered during 1963 by expanding "Operation Westwide" to include the following critical areas:

(1) Bicounty Cassia-Minidoka County, Minidoka Project, Idaho

(2) Flathead Valley Rescue Association, Hungry Horse Project, Montana

(3) Malheur County Water Safety Council, Vale, Oregon

(4) Mohave County Water Safety Council, Davis Dam, Arizona

(5) Ogden Area Water Safety Council, Weber Basin Project, Ogden, Utah

(6) The Parker-Parker Dam Water Safety Council, Parker, Arizona

(7) The Water Safety Council of Needles, Needles, California

(8) Tricounty Council, American Falls, Idaho

(9) Shasta County Water Safety Committee, Shasta, California

(10) South Platte River Projects, Loveland, Colorado

Currently, there are 24 active water safety councils, organized and operating under the auspices of "Operation Westwide." In January 1962, there were only 6 such councils. Regions and operating offices are continuing their efforts to organize water safety councils in all critical water areas.

ACCIDENT COSTS

Accidents do not always involve personal injury to employees but may result in the destruction or loss of property and third-party claims. Consideration and review of costs resulting from accidents is essential to the appraisal of any accident prevention program. The following summary of estimated accident costs for 1962 and 1963 is presented for this purpose:

	Type of accident	Estimated cost 1963	1962
1/	Work injuries		
	Disabling injuries	$ 57,324	$ 62,472
	Nondisabling injuries	8,568	6,846
	Fatal injuries	155,559	187,724
	Fires	3,620	7,094
2/	Tort claims	37,512	7,256
	Motor vehicle accidents	25,131	33,097
	Other property damage	6,445	11,024
	Total	$294,159	$315,513

1/Cost estimate based on past 5-year average cost.
2/Tort claims resulting from accidents adjudicated during 1962 and 1963.

The costs shown are estimated direct costs resulting from accidents.

STUDIES CONDUCTED BY COMPETENT AND RECOGNIZED AUTHORITIES INDICATE THAT INDIRECT ACCIDENT COSTS EXCEED DIRECT ACCIDENT COSTS BY A RATIO OF 4:1. REDUCTION OF ACCIDENTS IS GOOD BUSINESS. CONVERSELY, A HIGH INCIDENCE OF ACCIDENTS IS REFLECTED IN INCREASED OPERATING COSTS AND INEFFICIENCY.

SAFETY AWARDS

Department of the Interior 1962 Annual Fleet Safety Award

Presented to Reclamation for achievement of the best motor vehicle safety record in the Department during 1962. Our Bureau also won the award in 1959 and 1960.

Commissioner's Annual Safety Award--1963

Presented to Region 4 in recognition of the best safety record for Government forces during calendar year 1963.

The Department of the Interior's Certificate of Safety Achievement Award

In recognition of 500,000 man-hours without a disabling injury:

Canadian River Project--Amarillo, Texas
Columbia Basin Project--Ephrata, Washington
Kansas River Projects--McCook, Nebraska
North Platte River Projects--Casper, Wyoming
Regional Office, Region 5--Amarillo, Texas
Regional Office, Region 1--Boise, Idaho
Weber Basin Projects--Ogden, Utah

In recognition of 500,000 accident-free miles:

Canadian River Project--Amarillo, Texas
Columbia Basin Project--Ephrata, Washington
Distribution Systems Project Office--Madera, California
Flaming Gorge Unit--Dutch John, Utah
Fresno Field Division--Fresno, California
Glen Canyon Unit--Page, Arizona
Kansas River Projects--McCook, Nebraska
Klamath Project--Klamath Falls, Oregon
Middle Rio Grande Project--Albuquerque, New Mexico
Red Bluff, Central Valley Project Construction Office--
Red Bluff, California
Rio Grande Project--Weslaco, Texas
Transmission System Office--Salt Lake City, Utah
Watertown Field Unit--Huron, South Dakota

National Safety Council Awards

Presented annually by the National Safety Council to organizations in recognition of outstanding safety performance.

AWARD OF HONOR
(NSC Highest Award)

Region 5--Amarillo, Texas
Region 7--Denver, Colorado

AWARD OF MERIT

Region 1--Boise, Idaho
Region 6--Billings, Montana

NATIONAL FLEET SAFETY CONTEST

Region 1--First Place, Group 1 of Government Truck Division

SAFETY OBJECTIVES

Past Is Prologue

Every employee in the Bureau of Reclamation can take justifiable pride in the marked and continued improvement made in Reclamation's accident prevention record.

The foregoing statistics clearly indicate the areas of strength and weakness.

One thing is crystal clear. The concept of management participation and involvement--embodied in the present safety policy--is a realistic and effective approach to accident prevention. Continued improvement will largely depend upon the degree to which we support and carry out the existing program and basic health and safety requirements.

Emphasis and Action

Traffic Safety: The increase in highway traffic and the number of injuries and deaths arising therefrom have made it unlikely that the problem of traffic safety can be solved except by progressive thought and action. In an endeavor to strengthen and improve our driver education and training, we have under consideration adoption of a driver improvement plan incorporating a "point system."

Construction by Contract: Aggressive and concerted effort will be needed in order to improve the contractors' safety record, and to reduce the high incidence of fatal injuries. In addition to seeking uncompromising compliance with construction safety requirements, we plan to formally recognize exemplary safety records achieved by Bureau contractors. Effective January 1, 1964, such recognition will be afforded through an appropriate "Construction Safety Award."

Public Safety: A concerted effort will be made to expand "Operation Westwide," through the creation of additional water safety councils, and by assisting and encouraging existing councils toward greater achievement. Also, increased emphasis will be placed upon consideration of public health and safety in the planning, development, and management of recreational areas.

Hazardous Occupations: A policy providing for periodic physical examinations for designated hazardous occupations is being drafted for incorporation in Reclamation's personnel and employee utilization program.

Accident Reporting: Presently under consideration and trial is a revised system of accident reporting, devised for the purpose of obtaining improved review and correction of conditions contributing to an accident.

CONCLUSION

It is only appropriate that we conclude this annual report with the following quotes, providing inspiration and direction in our continuing effort to reduce accidents:

Floyd E. Dominy, Commissioner of Reclamation, at the Department's Eighth Annual Safety Programing Conference, October 31, 1963:

> "An agency can improve its safety record by militant safety management, reflected by enforcement of safety regulations, with courage to enforce just penalties, as well as to recognize commendable safety effort; and by management that requires the participation of every man and woman in the organization in carrying out an effective health and safety program."

B. P. Bellport, Chief Engineer, Bureau of Reclamation, at the Eighth Biennial Construction Engineers' Conference, January 28, 1964: Relative to the contractors' safety record--

> "It appears that a reappraisal and greater dedication of effort is demanded. On my part, I am asking for, and anticipate complete and uncompromising compliance with the provisions of Safety Requirements for Construction by Contract, Third Edition," * * * "I ask your full cooperation and militant support of this effort to improve the contractors' safety record, and to prevent a recurrence of last year's disappointing performance."

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1963 --- THROUGH December 31 ---, 1963 --

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
Washington Office	242	40,656	493,080							0.0	0.0		0	0
Denver Office	1,474	247,632	2,938,272		3			16		1.0	0.7		5	17
Alaska District	39	5,354	69,885		1			1		14.3	15.9		14	111
REGION 1														
Boise Regional Office	171	23,139	306,382							0.0	0.0		0	0
Central Snake Projects	50	6,179	82,636		2			11		24.2	11.1		133	11
Chief Joseph Dam Project	30	6,575	76,289							0.0	0.0		0	0
Coeur d'Alene Project	23	3,906	35,589							0.0	0.0		0	0
Columbia Basin Project	812	142,912	1,764,232	2	6	1	35	6,051	14.0	3.4	7.9	245	3,430	108
Hungry Horse Project	52	8,878	110,078		1			6		9.1	18.0		54	549
Lower Columbia Development	49	6,863	74,439		3			25		40.3	0.0		336	0
Minidoka Project	123	22,320	277,047		2			21		7.2	12.7		76	39
Rogue Project	3	438	7,074							0.0	0.0		0	0
Snake River Development	48	7,664	83,854		1			3		11.2	11.2		34	6,701
The Dalles Project	32	4,929	70,557							0.0	0.0		0	0
Upper Columbia Development	41	5,682	75,281		2			10		26.6	0.0		133	0
Vale Project	19	2,227	38,356							0.0	0.0		0	0
Yakima Project	28	4,436	53,358		1			4		13.7	18.8		72	56
Totals and Averages	1,434	246,248	3,060,172	2	18	1	35	6,131	8.1	5.9	7.2	142	2,903	232
REGION 2														
Sacramento Regional Office	608	102,144	1,221,936	1	7		8	267	9.8	5.7	6.5	73	213	63
Folsom Field Division	61	10,534	125,784							0.0	0.0		0	0
Fresno Field Division	163	27,384	306,112	1	2		2	100	36.5	6.5	16.3	73	227	209
Shasta Field Division	122	21,247	241,500		3			82		12.4	4.2		340	436
Tracy Field Division	181	30,788	374,302		2			95		5.3	8.0		254	233
Distribution System Projects			6,483							0.0	0.0		0	0
El Dorado Distribution			16,584							0.0	0.0		0	0
Klamath Project	25	4,200	60,277		1			5		16.4	6.0		82	0
Lahontan Basin Project	28	4,704	54,600							0.0	6.2		0	0
Red Bluff Office	94	15,792	221,304		1	1		6,000		4.5	5.5		27,112	72
San Luis Unit	517	94,187	909,203	1	9		60	188	10.6	9.9	9.3	637	207	0
Trinity River Division	109	18,312	340,460		3			38		8.8	9.0		112	10,526
Willows Field Office	39	6,552	51,016							0.0	0.0		0	0
Totals and Averages	1,947	335,844	3,929,521	3	28	1	70	6,775	8.9	7.1	6.1	208	1,724	1,687
REGION 3														
Boulder Regional Office	147	23,520	280,000		1			2		3.6	0.0		7	0
Boulder City Development	12	2,016	24,680							0.0	--		0	--
Boulder Canyon Project	148	25,375	316,525		2			53		6.3	9.1		167	271
Colorado River FW & LS	86	14,477	156,194		3			20		19.2	20.0		128	307
Parker-Davis Project	312	76,062	612,633	1	5		13	51	13.1	8.2	10.2	171	83	126
Phoenix Development	132	21,120	217,854		2			221		12.3	8.8		1,014	9
Southern California Development	32	5,038	39,815							0.0	0.0		0	0
Yuma Projects	234	52,352	373,159		2			52		5.4	18.2		139	42,692
Totals and Averages	1,103	219,960	2,020,788	1	16		13	399	4.5	7.9	10.5	22	420	7,332
REGION 4														
Salt Lake Regional Office	306	73,143	690,208							0.0	2.9		0	153
Emery County	43	9,161	85,321							0.0	0.0		0	0
Central Utah Projects	138	24,031	279,605		1			20		3.6	3.0		72	752
Curecanti Unit	97	15,706	188,222							0.0	12.8		0	38,571
Flaming Gorge Unit	116	12,847	257,278		1			20		2.9	3.4		78	903
Glen Canyon Unit	297	52,866	705,972					230		1.4	5.7		326	1,125
Navajo Unit			8,603							0.0	8.2		0	82
Power Operations Office	38	6,720	31,742							0.0	--			--
Transmission System Office	72	12,096	155,182					12		6.4	6.1		77	13
Durango Projects	56	8,646	152,462		1			32		6.3	10.2		202	63
Grand Junction Projects	85	14,712	184,074		3			15		16.3	7.7		81	305
Logan Development	13	2,224	28,236							0.0	6.0		0	0
Seedskadee Project	61	14,815	153,235							0.0	6.1		0	272
Upper Green River Project	17	4,080	37,120							0.0	10.8		0	0
Weber Basin Projects	210	35,300	435,773		1			11		2.3	3.4		25	0
Totals and Averages	1,549	236,347	3,399,088		9			340		2.6	5.2		100	2,116
REGION 5														
Amarillo Regional Office	109	17,562	232,364							0.0	0.0		0	0
Albuquerque Development	37	5,896	75,021							0.0	0.0		0	0
Austin Development	60	7,895	126,970							0.0	0.0		0	0
Canadian River Project	152	25,190	320,189							0.0	0.0		0	0
Lower Rio Grande Rehab.	32	5,632	91,576							0.0	0.0		0	0
Middle Rio Grande Project	238	37,510	432,843		7			45		14.5	7.9		93	71
Navajo Indian Irrigation Project	65	11,480	104,408		1			2		9.6	--		19	--
Norman Project	76	16,444	164,309							0.0	9.0		0	152
Oklahoma City Development	26	3,295	52,530							0.0	0.0		0	0
Rio Grande Project	256	43,392	556,343		3			48		5.4	10.2		86	51
San Angelo Project	7	1,153	43,328	1	1		30	30	869.6	22.8	11.3	26,097	634	558
San Juan-Chama Project	67	15,989	98,087	3	2		3	3	62.5	20.4	--	188	82	--
Wichita Project	50	8,327	130,317							0.0	10.2		0	10
Totals and Averages	1,175	199,762	2,478,790	2	14		3	133	10.0	5.6	5.9	165	54	78
REGION 6														
Billings Regional Office	240	36,636	466,066							0.0	2.2		0	2
Canyon Ferry Project	19	2,376	36,331		1			18		27.5	0.0		495	0
East Bench Project	63	8,029	130,044							0.0	0.0		0	0
Fort Peck Project	36	3,380	65,786		1			11		15.2	15.5		167	264
Missouri-Oahe Projects	266	43,900	523,337		5	1		6,130		9.6	7.5		11,713	909
Missouri-Souris Projects	117	19,336	234,625		2			12		8.5	3.5		51	21
Power System Operations	40	6,400	83,440							0.0	0.0		0	0
Riverton Project	29	3,708	56,567		2			162		35.4	17.6		2,864	2,354
Upper Missouri Projects	67	10,537	154,776							0.0	20.3		0	132
Yellowtail Project	133	27,228	253,399							0.0	9.1		0	109
Totals and Averages	1,010	162,030	2,004,371		11	1		6,333		5.5	6.8		3,160	318
(continued next page)														
CONSOLIDATED TOTALS														
TOTALS LAST YEAR (19)														

*FATALITIES INCLUDED IN TOTAL DISABLING

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: GOVERNMENT
(Government-Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH December 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 7														
Denver Regional Office	173	29,064	350,536							0.0	0.0		0	0
Denver Development	37	6,256	62,920							0.0	0.0		0	0
Fryingpan-Arkansas Project	98	11,760	161,379		2			404		12.4	0.0		2,503	0
Kansas River Projects	298	49,056	652,280							0.0	1.5		0	12
Niobrara-Lower Platte Projects	256	40,960	553,120		1			6		1.8	0.0		11	0
North Platte River Projects	333	53,280	639,921					10		0.0	0.0		15	0
South Platte River Projects	169	27,040	332,584		2			12		6.0	11.3		36	139
Totals and Averages	1,364	217,416	2,772,740		5			432		1.8	1.9		156	21
CONSOLIDATED TOTALS	11,339**	1,961,249	23,166,707	3	105	3	151	20,560	4.1	4.5	5.2	77	887	1,238
TOTALS LAST YEAR (1962)	11,190		22,611,294		118	4		27,996		5.2			1,238	

*FATALITIES INCLUDED IN TOTAL DISABLING **1963 average--11,382

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DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SAFETY PERFORMANCE RECORD
LOST TIME ACCIDENT SUMMARY

FORCES: CONTRACTOR
(Government - Contractor)

PERIOD FROM JANUARY 1, 1963 THROUGH December 31, 1963

REPORTING OFFICE	NUMBER OF EMPLOYEES (AVERAGE)	MAN HOURS WORKED (EXPOSURE)		NUMBER OF INJURIES CAUSING LOSS OF TIME OR PERMANENT DISABILITY			MAN DAYS LOST ACTUAL-ESTIMATED & STANDARD TIME CHARGES		FREQUENCY RATE DISABLING INJURIES PER MILLION MAN HOURS			SEVERITY RATE DAYS LOST PER MILLION MAN HOURS		
		THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	FATAL *	THIS MONTH	CUMULATIVE THIS YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR	THIS MONTH	CUMULATIVE THIS YEAR	SAME PERIOD LAST YEAR
REGION 1														
Chief Joseph Dam Project	20	803	23,263							0.0	22.7		0	64
Columbia Basin Project	89	6,139	183,150							0.0	4.5		0	13
Coeur d'Alene Project			35,458							0.0	0.0		0	0
Hungry Horse Project	18	1,198	12,172		1			9		82.1	0.0		739	0
Minidoka Project	19	923	5,098							0.0	0.0		0	0
Rogue Project			8,437							0.0	0.0		0	0
Snake River Development			24							0.0	0.0		0	0
The Dalles Project	46	4,164	67,733							0.0	0.0		0	0
Vale Project	21	1,697	67,972							0.0	28.7		0	43,335
Yakima Project	34	4,011	25,925							0.0	0.0		0	0
Totals and Averages	247	18,935	434,244		1			9		2.3	13.2		21	11,386
REGION 2														
Distribution System Projects			18,390		2			15		108.8	50.5		816	1,136
El Dorado Distribution			11,399							0.0	46.9		0	477
Fresno Field Division			8,711		2	1		6,021		229.5	0.0		691,195	0
Klamath Project			1,702							0.0	0.0		0	0
Red Bluff Office	155	25,364	354,759	1	2		90	111	38.7	5.6	14.1	3,580	313	525
San Luis Unit	1,368	233,431	1,557,199	3	25	2	280	12,776	10.6	16.0	20.0	333	8,204	0
Tracy Field Division			7,975							0.0	0.0		0	0
Trinity River Division	49	7,089	346,349		13			6,155		37.6	43.4		15,931	4,681
Totals and Averages	1,572	316,384	2,346,434	4	44	3	370	25,073	12.6	18.7	35.3	1,169	10,697	3,315
REGION 3														
Colorado River FW & LS			21,270							0.0	0.0		0	0
Parker-Davis Project	404	63,000	225,037	1	3		1	*	15.9	13.3	134.5	16	426	2,022
Phoenix Development	15	1,200	7,300							0.0	0.0		0	0
Yuma Projects	254	53,296	11,967	3	6		14	[illegible]	51.5	50.4	14.1	240	5,665	[illegible]
Totals and Averages	673	122,496	274,124	4	9		15	[illegible]	32.6	24.1	27.3	122	2,059	[illegible]
REGION 4														
Central Utah Projects	17	3,004	14,697		1			10		68.0	57.0		6,304	1,411
Curecanti Unit	388	80,303	782,927	1	19	1	7	6,280	12.4	24.3	15.4	366	3,034	522
Flaming Gorge Unit	261	66,283	1,123,604		22	2		12,294		19.6	9.2		11,505	2,508
Glen Canyon Unit	1,392	239,135	3,259,369		50	2	87	13,653	16.7	15.3	20.2	364	4,189	2,655
Navajo Unit			32,081							0.0	14.5		0	390
Emery County Project	78	12,331	139,238					197		21.5	4.0		765	0
Florida Division	17	2,046	303,522		5	1		6,135		16.5	29.5		20,213	546
Grand Junction Projects			12,092							0.0	13.3		0	305
Seedskadee Project	164	19,113	609,925		5	2		12,159		8.2	6.1		19,524	147
Weber Basin Projects	246	39,747	633,131		13			93		13.0	28.6		134	12,520
Totals and Averages	2,563	462,972	6,961,240	5	118	8	94	51,506	16.3	16.9	16.4	203	7,399	3,653
REGION 5														
Amarillo Regional Office			3,177							0.0	0.0		0	0
Albuquerque Development	5	352	732							0.0	0.0		0	0
Austin Development			1,223							0.0	--			--
Canadian River Project	449	101,232	1,083,243	1	12		45	160	9.9	11.1	20.3	444	142	422
Lower Rio Grande Rehab.	186	17,421	226,252		2			15		8.8	23.3		66	34
Norman Project	203	26,321	274,657	1	3		16	186	37.9	10.9	60.7	599	677	633
Oklahoma City Development			2,471							0.0	--			--
Rio Grande Project			7,553							0.0	[illegible]		0	[illegible]
San Angelo Project			50,890							[illegible]	23.5		0	13,061
San Juan-Chama Project	33	4,291	30,269							0.0	--		0	--
Wichita Project	90	15,025	330,259		2			327		5.9	[illegible]		302	0
Totals and Averages	966	165,242	2,021,723	2	19		61	688	12.1	9.4	21.5	769	340	9,015
REGION 6														
East Bench Project	124	7,440	383,357		15			446		39.1	48.4		1,162	1,264
Missouri-Oahe Projects	224	24,656	251,341	1	13		1	172	40.6	51.6	26.3	41	693	14,471
Missouri-Souris Projects	40	3,036	153,211		3			77		19.0	34.3		438	1,196
Riverton Project	22	1,800	16,419							0.0	33.1		0	431
Upper Missouri Projects	6	276	12,063	1				3		72.9	0.0		24	0
Yellowtail Project	333	76,403	1,223,044	1	7	4	90	24,206	13.1	5.7	9.9	1,177	19,512	305
Fort Peck Project	7	435	435							0.0	--		0	--
Totals and Averages	756	114,103	2,045,916	2	39	4	91	24,904	17.5	19.1	22.3	798	12,173	3,794
REGION 7														
Fryingpan-Arkansas Project	2	503	5,652							0.0	0.0		0	0
Kansas River Projects	236	36,434	654,430		3			217		4.6	4.4		332	3,529
Niobrara-Lower Platte Projects	387	62,367	905,102		15		70	299	43.9	16.6	17.4	1,082	330	6,361
North Platte River Projects	91	14,512	118,521					108		25.3	43.9		911	595
South Platte River Projects		276	5,938							0.0	[illegible]		0	[illegible]
Totals and Averages	771	120,597	1,689,594	3	21		70	624	24.9	12.4	14.8	580	369	5,139
CONSOLIDATED TOTALS	7,543**	1,320,729	15,373,330	20	251	15	701	103,579	15.1	15.9	21.4	531	[illegible]525	[illegible]652
TOTALS LAST YEAR (1962)	8,141		16,509,278		353	9		76,799		21.4			4,652	

*FATALITIES INCLUDED IN TOTAL DISABLING **1963 average--7,670

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